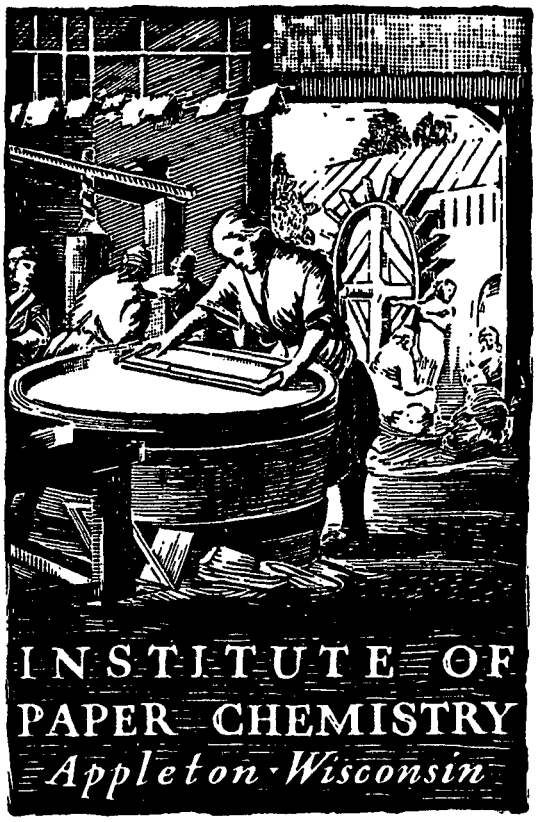

CONTINUOUS BASELINE STUDY

Project 1108-B

Progress Report 74

to

FOURDRINIER KRAFT BOARD INSTITUTE, INC.

September 1, 1953

THE INSTITUTE OF PAPER CHEMISTRY

Appleton, Wisconsin

CONTINUOUS BASELINE STUDY

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In conjunction with the F.K.I. Continuous Baseline Study, one hundred and sixteen different sample lots of 42-lb. Fourdrinier kraft linerboard were submitted by fourteen different F.K.I. mills to The Institute of Paper Chemistry for testing during the period August 1 through August 31. In addition to the 42-lb. kraft linerboard, three samples of special drum stock were also submitted for evaluation by one of the participating mills. The results on the special stock are tabulated separately in this report. A tabulation of the number of samples classified according to mill may be seen in Table I.

TABLE I

DISTRIBUTION OF 42-LB. LINERBOARD SAMPLES

Mill Code	Samples Submitted
A	10
B	16
C	8
D	14
E	4
F	6
G	10
H	6
I	7
J	6
K	0
L	10
M	8
N	8
O	3
	116

These sample lots were tested for basis weight, caliper, bursting strength, G. E. puncture, and Elmendorf tear. The average strength results for each mill may be seen in Table II and are graphically presented in Figures 1 to 6. In addition to a comparison of the mill averages for the various tests, Table II also shows the current F.K.I. averages, the cumulative F.K.I. averages, and the F.K.I. indexes. The cumulative F.K.I. average includes all the results up to but not including the current period; the current period in the case of this report is August 1 through August 31. The F.K.I. indexes are obtained as follows:

$$\frac{\text{current F.K.I. average}}{\text{cumulative F.K.I. average}} \times 100 = \text{F.K.I. index (\%)}$$

The F.K.I. index provides a ready means of comparing the current quality with previous results. For example, the current F.K.I. average basis weight is 42.9 lb., and the cumulative F.K.I. average basis weight is 43.1 lb. Hence, the index for basis weight determined in per cent as indicated above is 99.5. This signifies that the current average basis weight is slightly lower than the cumulative average, which in this case covered the period from July 25, 1947, through July 31, 1953.

A comparison of the results in Table II and Figure 1 shows that the average basis weight results for all mills except E conform to the 42-lb. specification set forth in Rule 41. Mill G has the highest average basis weight, it being 45.1 lb. or approximately 7.4% higher than the 42-lb. specification. On the other hand, Mill E has the lowest average basis weight, it being 41.9 lb., approximately 0.2% lower than the 42-lb. specification.

The amount by which the mills vary from the 42-lb. specification is as follows:

Mill Code	Per Cent
A	+1.9
B	+1.9
C	+4.0
D	+3.3
E	-0.2
F	+1.4
G	+7.4
H	+3.1
I	+2.9
J	+2.4
K	—
L	+4.0
M	+3.1
N	+1.0
O	+0.2

A comparison of the average basis weight data for the previous period with the current F.K.I. average indicates that the basis weight results have increased slightly.

A comparison of the average caliper values for the various Mills (see Figure 2) shows that the mill averages vary from a low of 12.2 for Mills H and N to a high of 14.5 for Mill C, the average being 13.0 which is somewhat lower than the cumulative average of 13.9.

The average bursting strength values obtained for each mill are graphically presented in Figure 3. It may be observed that the average bursting strength values for the various mills range from a low of 106 for Mills E and M to a high of 125 for Mill G. The current F.K.I. average bursting strength is 110, somewhat higher than the cumulative average of 106.

The data of Table II and Figure 4 show that the average G. E. puncture result for all mills is 33 units. Mills F, L, M, and O share the highest G. E. puncture average, 36 units; Mill B has the lowest average, 29 units. The current F.K.I. G. E. puncture average of 33 units is lower than the cumulative F.K.I. average which is 36 units.

A graphic comparison of the Elmendorf tear results for the various mills is given in Figures 5 and 6. The data of Table II show that Mill M has the highest average machine direction tear value while Mill B has the lowest. Mills F and M have the highest average cross-machine direction tear value, whereas Mill B has the lowest value. It may be noted that the current F.K.I. average machine and cross-machine direction tear results are lower than the cumulative averages.

A comparison of the F.K.I. indexes indicates that, for the current period, the current F.K.I. averages for caliper, G. E. puncture and Elmendorf tear are lower than the respective cumulative F.K.I. averages, whereas the current F.K.I. average for bursting strength is higher and the average for basis weight is the same.

In order to compare the variation within a given mill, the test results for each particular mill have been tabulated in Tables III to XVII for Mills A to O, respectively. In addition to the current and cumulative averages, the mill factor and mill index are given for each mill. The cumulative mill average is the average test result obtained on the samples submitted by the particular mill up to, but not including, the current average. The mill factor and the mill index are obtained as follows:

$$\frac{\text{current mill average}}{\text{cumulative mill average}} \times 100 = \text{mill factor (\%)}$$

$$\frac{\text{current mill average}}{\text{cumulative F.K.I. average}} \times 100 = \text{mill index (\%)}$$

The mill factor and the mill index serve as a ready means for comparing the current mill results either with the previous results for that particular mill or with the cumulative F.K.I. results. As the test data accumulate, the factors and indexes acquire added significance. The reports also contain a comparison of the test data obtained at the mills with test data obtained at The Institute of Paper Chemistry.

The results obtained on the special drum stock may be seen in Table XVIII.

It may be noted in Tables III through XVII that the data have been separated on the basis of the sheet finish. The summarized results for the mills which submitted sample lots during the current period are as follows:

Mill Code	No. of Sample Lots W.F.	D.F.	Misc.
A	10[a]		
B	16[a]		
C	8		
D	13	1	
E	4, 3[b]		
F	6		
G	10		
H	6[a]		

(Continued on next page.)

Mill Code	No. of Sample Lots W.F.	D.F.	Misc.
I	4[a], 3		
J		2	4[d]
L			10[c]
M	8		
N	5[a]		3[c]
O	3		

[a] One side only.
[b] Drum linerboard.
[c] Sheet finish not reported.
[d] Semi-water finish.

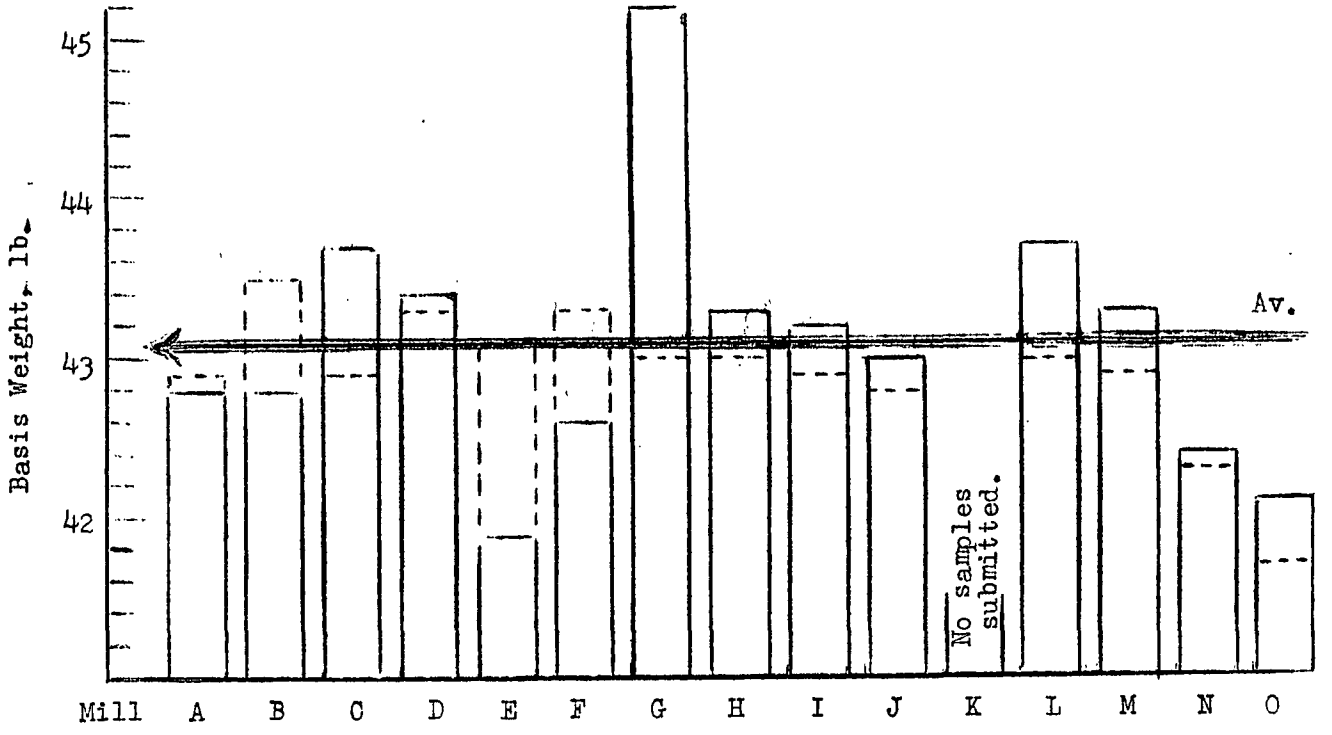
The results indicate that a majority of the mills are using a water finish on their 42-lb. linerboard.

TABLE II

SUMMARY OF COMPOSITE MILL AVERAGES--AUGUST 1 THROUGH AUGUST 31, 1953

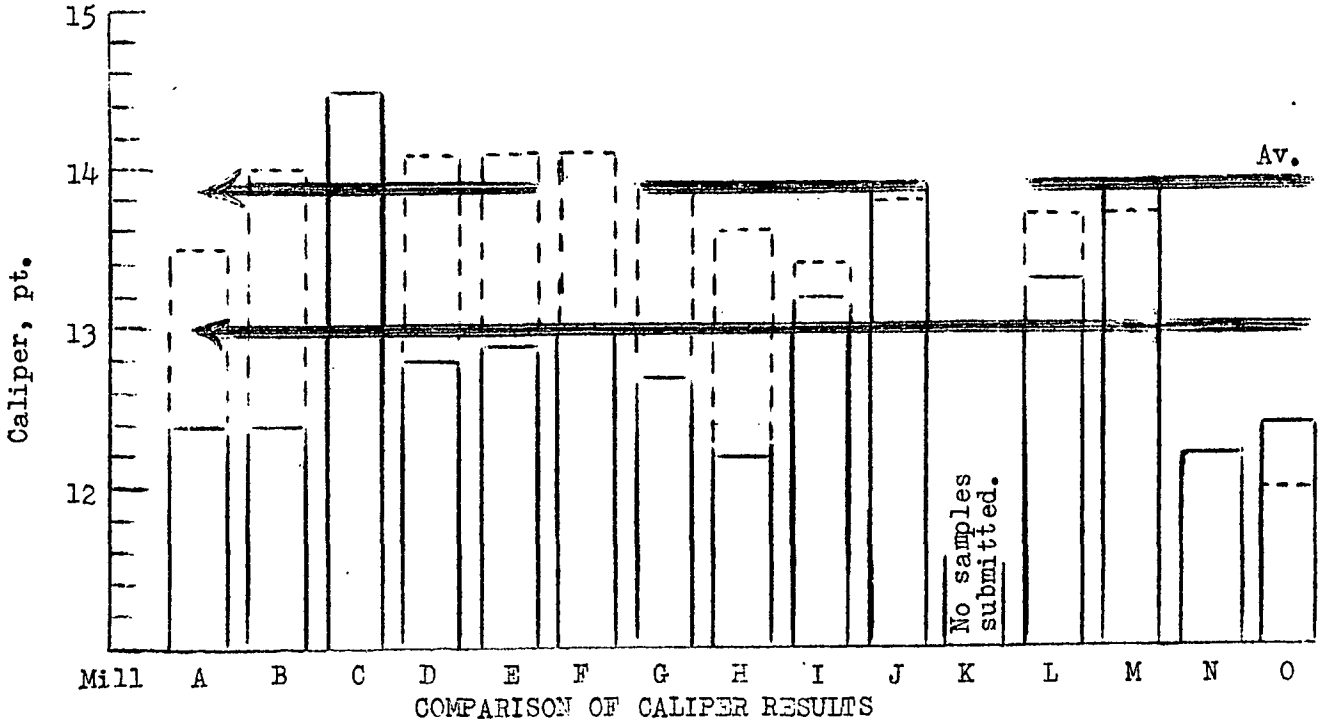
Code No.	Basis Weight, lb.	Caliper, points	Bursting Strength, p.s.i. gage	G. E. Puncture, units	Elmendorf Tear g./sheet In Direction	Elmendorf Tear g./sheet Across Direction
A	42.8	12.4	113	33	323	377
B	42.8	12.4	108	29	292	335
C	43.7	14.5	107	35	340	378
D	43.4	12.8	107	35	269	385
E	41.9	12.9	106	30	336	356
F	42.6	13.0	113	36	365	410
G	45.1	12.7	125	34	352	374
H	43.3	12.2	109	32	349	392
I	43.2	13.2	112	32	342	403
J	43.0	13.9	109	31	345	381
K	No samples submitted.					
L	43.7	13.3	107	36	358	384
M	43.3	13.9	106	36	401	410
N	42.4	12.2	109	33	344	380
O	42.1	12.4	111	36	345	377
Current FKI Average	43.1	13.0	110	33	347	382
Cumulative FKI Average:	43.1	13.9	106	36	371	404
FKI Index, %:	100.0	93.5	103.8	91.7	93.5	94.6

Figure 1



COMPARISON OF BASIS WEIGHT RESULTS
(Period August 1 - August 31)

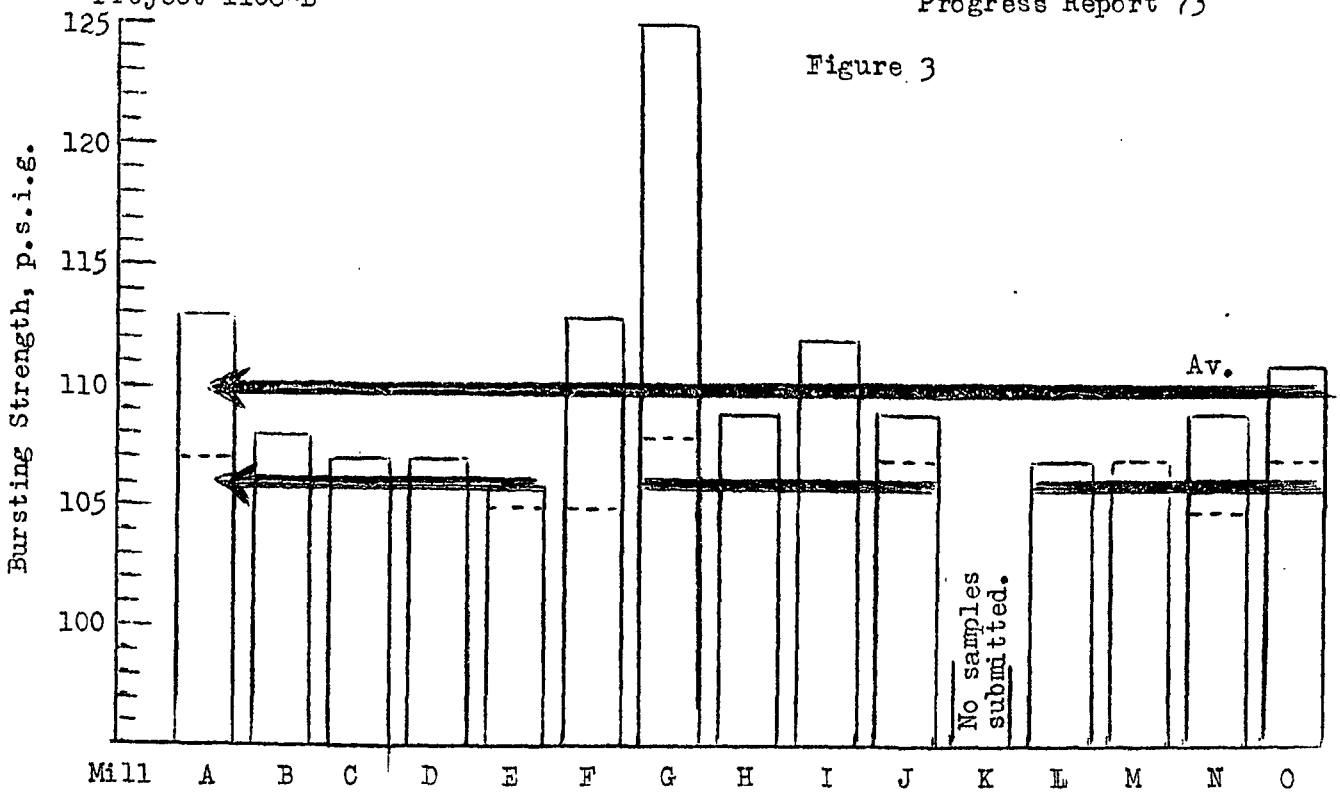
Figure 2



COMPARISON OF CALIPER RESULTS
(Period August 1 - August 31)

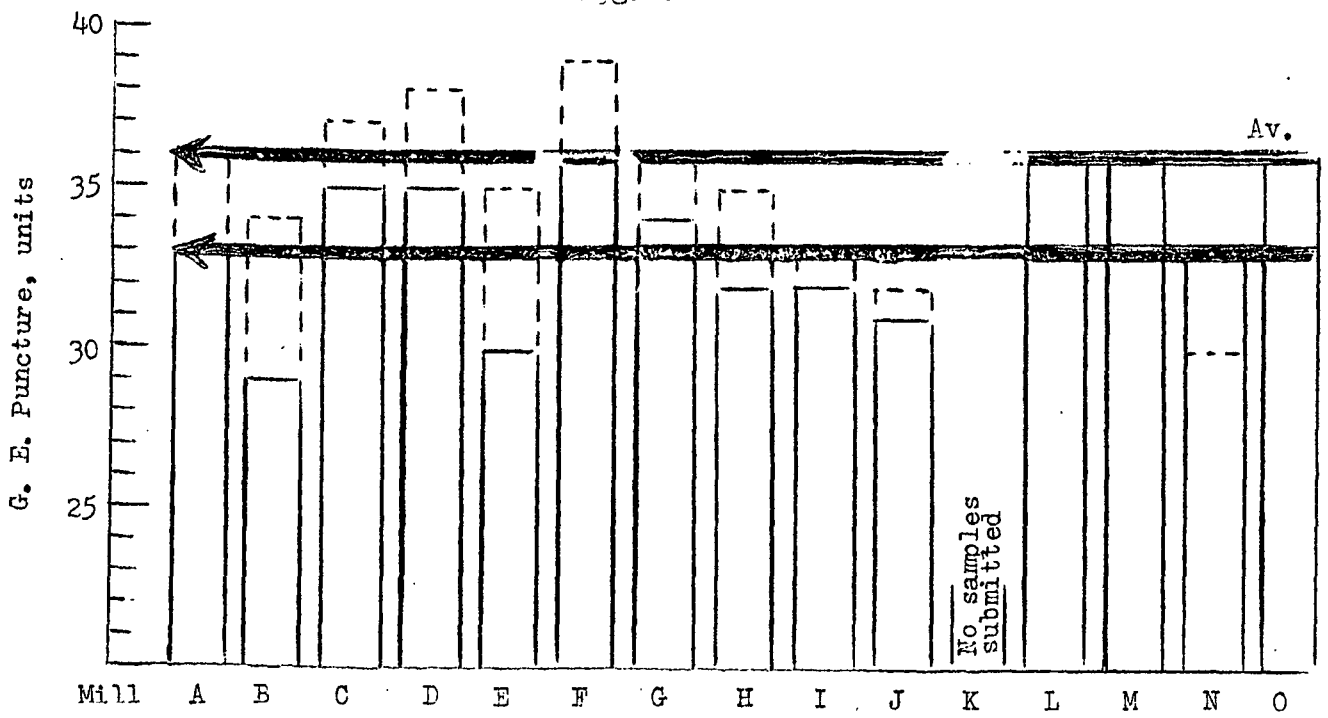
——— Current Mill Average
- - - - Cumulative Mill Average

Figure 3



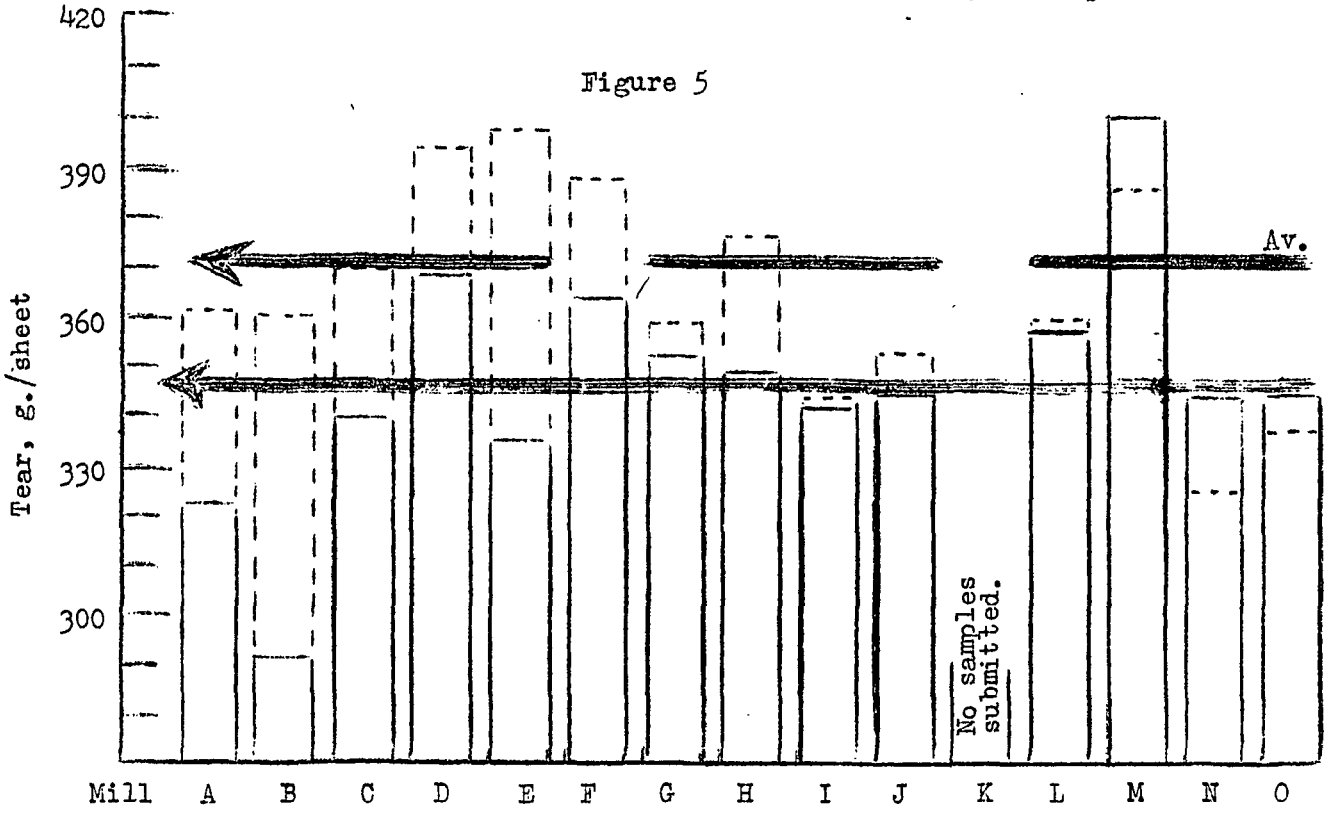
COMPARISON OF BURSTING STRENGTH RESULTS
(Period August 1 - August 31)

Figure 4

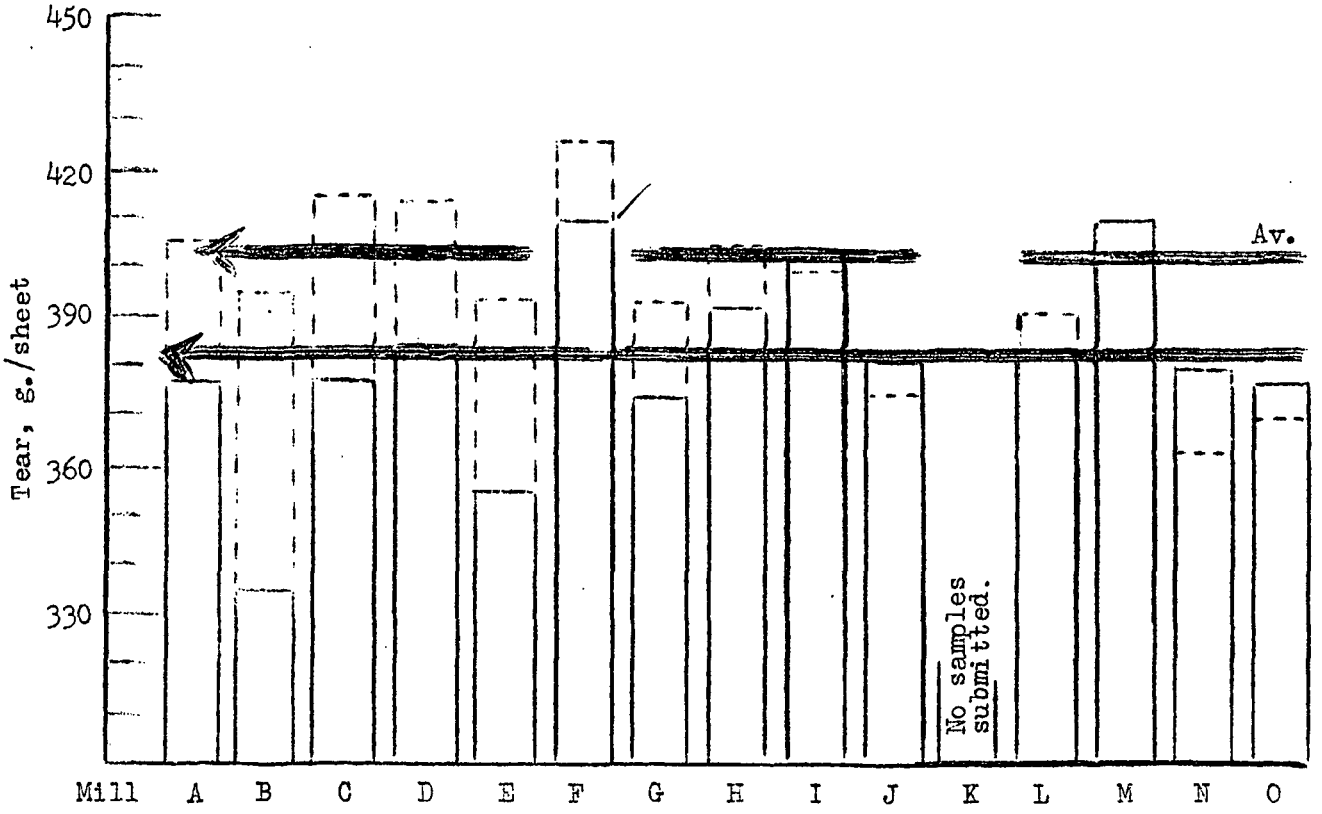


COMPARISON OF G. E. PUNCTURE RESULTS
(Period August 1 - August 31)

Figure 5



COMPARISON OF TEAR RESULTS, Machine Direction
(Period August 1 - August 31)



COMPARISON OF TEAR RESULTS, Across-machine Direction
(Period August 1 - August 31)

TABLE III

SUMMARY OF INDIVIDUAL TEST LOTS--AUGUST 1 THROUGH AUGUST 31, 1953

File No.	Mill Code	Finish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb.			Caliper, points			Bursting Strength, p.s.i. gage			G. E. Puncture, units			Elmendorf Tear, g./sheet					
																		In			Across		
						Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.
Mill A--42-lb. Linerboard																							
154894	A-466	WF1S	8/ 1/53	7/19/53	1	44.4	43.6	43.9	12.9	12.0	12.4	143	80	114	36	30	33	416	304	341[a]	432	352	393[a]
154895	A-467	WF1S	8/ 1/53	7/20/53	2	43.8	42.4	43.3	13.1	12.2	12.8	130	95	111	35	30	33	352	264	311	356	336	385[a]
154903	A-468	WF1S	8/ 3/53	7/26/53	2	43.6	42.4	42.8	13.3	12.2	12.6	130	89	112	34	30	32	336	280	302[a]	432	344	389[a]
154904	A-469	WF1S	8/ 3/53	7/26/53	1	43.0	42.0	42.4	12.8	11.4	12.1	153	100	125	36	29	32	376	296	330a	448	344	396[a]
154977	A-470	WF1S	8/10/53	8/ 2/53	2	43.6	42.2	42.8	13.0	12.2	12.7	139	91	114	34	30	32	432	272	340a	400	360	383[a]
154978	A-471	WF1S	8/10/53	8/ 4/53	2	43.6	41.8	42.8	13.2	12.1	12.6	129	97	114	35	31	33	352	288	317a	408	344	380a
155051	A-472	WF1S	8/14/53	8/ 9/53	2	42.8	41.8	42.2	12.9	11.8	12.3	128	87	110	37	32	33	368	272	331a	432	328	366a
155052	A-473	WF1S	8/14/53	8/10/53	1	43.4	42.4	42.8	12.7	11.3	12.2	132	85	110	34	28	31	368	264	329a	408	336	359[a]
155167	A-474	WF1S	8/24/53	8/16/53	2	43.8	42.0	42.8	12.9	12.1	12.4	130	77	106	36	32	35	376	280	317	376	312	349[a]
155168	A-475	WF1S	8/24/53	8/16/53	1	43.4	41.6	42.6	13.0	12.0	12.4	137	85	110	36	31	33	352	272	313[a]	392	336	371[a]
Current Mill Average:								42.8			12.4			113			33			323			377
Cumulative Mill Average:								42.9			13.5			107			36			362			406
Mill Factor, %:								99.8			91.9			105.6			91.7			89.2			92.9
Mill Index, %:								99.3			89.2			106.6			91.7			87.1			93.3

[a] This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

TABLE IV

SUMMARY OF INDIVIDUAL TEST LOTS--AUGUST 1 THROUGH AUGUST 31, 1953 (continued)

File No.	Mill Code	Finish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb. Max.	Basis Weight, lb. Min.	Basis Weight, lb. Av.	Caliper, points Max.	Caliper, points Min.	Caliper, points Av.	Bursting Strength, p.s.i. gage Max.	Bursting Strength, p.s.i. gage Min.	Bursting Strength, p.s.i. gage Av.	G. E. Puncture, units Max.	G. E. Puncture, units Min.	G. E. Puncture, units Av.	Elmendorf Tear, g./sheet In Max.	Elmendorf Tear, g./sheet In Min.	Elmendorf Tear, g./sheet In Av.	Elmendorf Tear, g./sheet Across Max.	Elmendorf Tear, g./sheet Across Min.	Elmendorf Tear, g./sheet Across Av.
Mill B--42-lb. Linerboard																							
154886	B-839	WF1S	8/ 1/53	7/21/53	1	44.0	41.6	42.5	13.0	11.8	12.5	120	77	99	31	25	27	352	240	283[a]	368	288	321[a]
154887	B-840	WF1S	8/ 1/53	7/21/53	1	43.8	41.8	42.7	13.1	12.0	12.6	118	70	97	30	25	28	360	248	283[a]	344	288	319[a]
154888	B-841	WF1S	8/ 1/53	7/21/53	1	43.6	41.4	42.4	13.3	11.4	12.3	115	85	101	31	25	28	320	208	270a	336	264	305a
154889	B-842	WF1S	8/ 1/53	7/21/53	1	43.8	41.6	42.5	13.4	11.8	12.4	120	72	101	30	24	28	312	232	270a	368	280	319[a]
154919	B-843	WF1S	8/ 4/53	7/21/53	1	44.0	42.0	43.0	13.6	12.0	12.6	129	77	102	30	24	28	296	224	260a	400	272	315a
154920	B-844	WF1S	8/ 4/53	7/21/53	1	43.6	41.6	42.6	13.0	11.6	12.4	122	80	103	29	26	28	320	256	287	368	272	319a
154921	B-845	WF1S	8/ 4/53	7/21/53	1	43.2	40.8	42.2	13.6	11.9	12.5	128	66	101	30	23	27	344	248	283	352	288	314a
154922	B-846	WF1S	8/ 4/53	7/21/53	1	43.8	41.6	42.2	13.0	11.8	12.4	127	73	103	29	24	27	320	224	274	368	280	326a
155105	B-847	WF1S	8/18/53	8/10/53	1	44.0	42.0	43.3	13.0	12.0	12.4	131	87	114	33	27	30	352	272	301	384	320	345[a]
155106	B-848	WF1S	8/18/53	8/10/53	1	44.0	41.8	43.4	12.5	11.3	12.0	138	101	117	32	26	29	336	280	307[a]	384	328	353[a]
155107	B-849	WF1S	8/18/53	8/10/53	1	44.0	42.0	43.0	12.9	11.9	12.4	130	94	116	31	28	29	376	256	313	400	344	363[a]
155108	B-850	WF1S	8/18/53	8/10/53	1	44.0	41.8	43.2	13.0	11.2	12.3	130	93	113	32	27	30	400	288	333	400	320	359[a]
155155	B-851	WF1S	8/24/53	8/10/53	1	44.2	42.0	43.4	12.8	11.5	12.2	140	91	116	32	28	31	328	272	297	400	336	365[a]
155156	B-852	WF1S	8/24/53	8/10/53	1	44.2	42.0	43.3	13.0	11.8	12.3	129	97	116	34	29	31	336	248	301[a]	376	328	353[a]
155157	B-853	WF1S	8/24/53	8/10/53	1	43.6	41.8	42.6	12.9	11.9	12.3	137	92	115	32	28	30	344	264	297[a]	368	312	335[a]
155158	B-854	WF1S	8/24/53	8/10/53	1	43.8	41.2	42.5	12.8	11.9	12.4	128	90	112	34	28	31	360	280	318[a]	384	320	352[a]
Current Mill Average:								42.8			12.4			108			29			292			335
Cumulative Mill Average:								43.5			14.0			106			34			361			396
Mill Factor, %:								98.4			88.6			101.9			85.3			80.9			84.6
Mill Index, %:								99.3			89.2			101.9			80.6			78.7			82.9

[a] This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

TABLE III

SUMMARY OF INDIVIDUAL TEST LOTS--AUGUST 1 THROUGH AUGUST 31, 1953

File No.	Mill Code	Finish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb. Max.	Basis Weight, lb. Min.	Basis Weight, lb. Av.	Caliper, points Max.	Caliper, points Min.	Caliper, points Av.	Bursting Strength, p.s.i. gage Max.	Bursting Strength, p.s.i. gage Min.	Bursting Strength, p.s.i. gage Av.	G. E. Puncture, units Max.	G. E. Puncture, units Min.	G. E. Puncture, units Av.	Elmendorf Tear, g./sheet In Max.	Elmendorf Tear, g./sheet In Min.	Elmendorf Tear, g./sheet In Av.	Elmendorf Tear, g./sheet Across Max.	Elmendorf Tear, g./sheet Across Min.	Elmendorf Tear, g./sheet Across Av.
Mill A--42-lb. Linerboard																							
154894	A-466	WF1S	8/ 1/53	7/19/53	1	44.4	43.6	43.9	12.9	12.0	12.4	143	80	114	36	30	33	416	304	341[a]	432	352	393[a]
154895	A-467	WF1S	8/ 1/53	7/20/53	2	43.8	42.4	43.3	13.1	12.2	12.8	130	95	111	35	30	33	352	264	311	356	336	385[a]
154903	A-468	WF1S	8/ 3/53	7/26/53	2	43.6	42.4	42.8	13.3	12.2	12.6	130	89	112	34	30	32	336	280	302[a]	432	344	389[a]
154904	A-469	WF1S	8/ 3/53	7/26/53	1	43.0	42.0	42.4	12.8	11.4	12.1	153	100	125	36	29	32	376	296	330a	448	344	396[a]
154977	A-470	WF1S	8/10/53	8/ 2/53	2	43.6	42.2	42.8	13.0	12.2	12.7	139	91	114	34	30	32	432	272	340a	400	360	383[a]
154978	A-471	WF1S	8/10/53	8/ 4/53	2	43.6	41.8	42.8	13.2	12.1	12.6	129	97	114	35	31	33	352	288	317a	408	344	380a
155051	A-472	WF1S	8/14/53	8/ 9/53	2	42.8	41.8	42.2	12.9	11.8	12.3	128	87	110	37	32	33	368	272	331a	432	328	366[a]
155052	A-473	WF1S	8/14/53	8/10/53	1	43.4	42.4	42.8	12.7	11.3	12.2	132	85	110	34	28	31	368	264	329a	408	336	359[a]
155167	A-474	WF1S	8/24/53	8/16/53	2	43.8	42.0	42.8	12.9	12.1	12.4	130	77	106	36	32	35	376	280	317	376	312	349[a]
155168	A-475	WF1S	8/24/53	8/16/53	1	43.4	41.6	42.6	13.0	12.0	12.4	137	85	110	36	31	33	352	272	313[a]	392	336	371[a]
Current Mill Average:								42.8			12.4			113			33			323			377
Cumulative Mill Average:								42.9			13.5			107			36			362			406
Mill Factor, %:								99.8			91.9			105.6			91.7			89.2			92.9
Mill Index, %:								99.3			89.2			106.6			91.7			87.1			93.3

[a] This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

TABLE V

SUMMARY OF INDIVIDUAL TEST LOTS--AUGUST 1 THROUGH AUGUST 31, 1953 (continued)

File No.	Mill Code	Finish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb.			Caliper, points			Bursting Strength, p.s.i. gage			G. E. Puncture, units			Elmendorf Tear, g./sheet					
																		In			Across		
						Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.
Mill C--43-lb. Linerboard																							
155062	C-491	W.F.	8/17/53	8/ 6/53	1	45.8	42.6	44.4	15.3	13.9	14.7	132	83	106	39	34	37	400	312	343a	456	352	390[a]
155063	C-492	W.F.	8/17/53	8/ 6/53	1	45.0	42.4	44.0	15.2	13.9	14.6	119	84	104	39	33	36	416	304	349	416	352	381[a]
155064	C-493	W.F.	8/17/53	8/ 8/53	1	43.0	40.0	42.0	14.7	13.2	13.8	127	97	113	34	28	32	456	232	339[a]	400	320	369[a]
155066	C-494	W.F.	8/17/53	8/ 8/53	1	43.4	39.8	42.1	15.0	13.0	13.8	130	92	113	33	29	32	352	272	305a	408	312	359[a]
155066	C-495	W.F.	8/17/53	8/10/53	1	45.4	42.0	44.2	15.6	13.6	14.5	139	85	109	38	30	34	392	296	342[a]	400	336	373[a]
155067	C-496	W.F.	8/17/53	8/10/53	1	45.4	41.8	44.4	15.2	13.8	14.5	130	83	106	39	32	35	392	304	351[a]	392	352	379[a]
155068	C-497	W.F.	8/17/53	8/11/53	1	46.0	42.0	44.2	15.8	14.1	14.9	122	82	103	33	33	36	384	280	332a	456	352	393a
155069	C-498	W.F.	8/17/53	8/11/53	1	46.0	42.0	44.1	15.9	14.1	14.9	128	78	105	40	34	37	432	312	357a	408	336	383a
Current Mill Average:								43.7			14.5			107			35			340			378
Cumulative Mill Average:								42.9			13.9			107			37			370			415
Mill Factor, %:								101.9			104.3			100.0			94.6			91.9			91.1
Mill Index, %:								101.4			104.3			100.9			97.2			91.6			93.6

[a] This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

TABLE VI

SUMMARY OF INDIVIDUAL TEST LOTS--AUGUST 1 THROUGH AUGUST 31, 1953 (continued)

File No.	Mill Code	Finish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb.			Caliper, points			Bursting Strength, p.s.i. gage			G. E. Puncture, units			Elmendorf Tear, g./sheet					
																		In			Across		
						Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.
Mill D--42-lb. Linerboard																							
154899	D-673	W.F.	8/ 1/53	7/26/53	4	44.2	42.2	43.0	13.9	12.9	13.3	132	77	110	38	32	36	440	328	383a	464	368	409a
154900	D-674	W.F.	8/ 1/53	7/27/53	4	44.6	42.4	43.5	14.0	12.6	13.3	130	91	108	39	34	36	432	320	365a	448	352	399a
154901	D-675	W.F.	8/ 1/53	7/28/53	4	45.0	42.6	43.8	13.9	12.9	13.4	128	77	103	38	33	36	408	352	377a	408	328	380a
154902	D-676	W.F.	8/ 3/53	7/29/53	4	43.8	41.6	42.7	13.4	12.3	12.9	141	74	108	38	33	36	440	320	365a	432	344	395a
154918	D-677	D.F.[b]	8/ 4/53	8/ 1/53	4	46.0	43.0	44.5	13.7	12.0	12.8	130	87	107	37	31	35	400	304	353a	464	352	393a
154934	D-678	W.F.	8/ 5/53	8/ 2/53	4	46.4	43.4	45.0	13.2	12.7	13.0	132	77	108	40	34	37	448	328	372a	456	336	404a
154935	D-679	W.F.	8/ 5/53	8/ 3/53	4	43.8	41.8	42.7	12.8	11.7	12.2	121	81	101	36	31	34	416	320	359a	448	336	363a
154948	D-680	W.F.	8/ 6/53	8/ 4/53	4	44.2	42.4	43.4	12.7	11.9	12.2	134	88	113	36	32	34	480	336	384a	512	360	400a
154956	D-681	W.F.	8/ 7/53	8/ 5/53	4	43.0	40.8	42.1	13.0	12.2	12.6	133	75	109	34	30	32	432	256	351a	448	296	359a
155008	D-682	W.F.	8/k2/53	8/ 6/53	4	44.6	43.6	44.2	13.6	12.4	13.0	132	80	107	39	32	36	432	352	373a	416	336	387a
155027	D-683	W.F.	8/13/53	8/ 9/53	4	44.0	40.2	41.9	13.0	12.0	12.4	135	84	109	36	31	34	424	312	355a	392	320	367a
155028	D-683	W.F.	8/13/53	8/10/53	4	44.4	42.0	43.7	13.1	12.1	12.6	126	82	106	36	30	34	400	296	365a	416	352	393a
155033	D-685	W.F.	8/13/53	8/11/53	4	44.8	42.6	43.5	13.3	12.0	12.7	123	75	105	35	30	32	464	320	380a	408	320	367a
155164	D-686	W.F.	8/24/53	8/20/53	4	44.4	41.8	43.5	13.3	12.3	12.9	128	92	108	39	32	36	408	320	381a	424	320	371a
Current Mill Average:								43.4			12.8			107			35			369			385
Cumulative Mill Average:								43.3			14.1			107			38			395			414
Mill Factor, %:								100.2			90.8			100.0			92.1			93.4			93.0
Mill Index, %:								100.7			92.1			100.9			97.2			99.5			95.3

[a] This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

[b] The sample received by the Institute was marked "D.F." The mill data sheet, however, gives the finish as "W.F."

TABLE VII

SUMMARY OF INDIVIDUAL TEST LOTS--AUGUST 1 THROUGH AUGUST 31, 1953 (continued)

File No.	Mill Code	Finish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb. Max.	Basis Weight, lb. Min.	Basis Weight, lb. Av.	Caliper, points Max.	Caliper, points Min.	Caliper, points Av.	Bursting Strength, p.s.i. gage Max.	Bursting Strength, p.s.i. gage Min.	Bursting Strength, p.s.i. gage Av.	G. E. Puncture, units Max.	G. E. Puncture, units Min.	G. E. Puncture, units Av.	Elmendorf Tear, g./sheet In Max.	Elmendorf Tear, g./sheet In Min.	Elmendorf Tear, g./sheet In Av.	Elmendorf Tear, g./sheet Across Max.	Elmendorf Tear, g./sheet Across Min.	Elmendorf Tear, g./sheet Across Av.
Mill E--42-lb. Linerboard																							
154896	E-21	W.F.	8/ 1/53	7/25/53	2	45.0	40.2	42.6	14.7	13.0	13.9	110	65	95	34	28	32	432	312	369a	400	304	362a
154973	E-24	W.F.	8/10/53	8/ 6/53	2	43.2	40.2	41.1	12.9	11.5	12.3	135	87	112	29	24	26	352	288	317a	392	304	341a
155057	E-25	W.F.	8/17/53	8/10/53	2	42.2	40.0	41.5	12.9	12.0	12.5	148	98	116	32	27	29	352	288	319a	392	328	351a
155120	E-26	W.F.	8/19/53	8/17/53	2	43.8	40.2	42.2	13.0	12.0	12.8	125	78	103	36	30	32	392	280	339	408	320	368a
Current Mill Average:								41.9			12.9			106			30			336			356
Cumulative Mill Average:								43.1			14.1			105			35			398			394
Mill Factor, %:								97.2			91.5			101.0			85.7			84.4			90.4
Mill Index, %:								97.2			92.8			100.0			83.3			90.6			88.1

TABLE VIII

File No.	Mill Code	Finish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb. Max.	Basis Weight, lb. Min.	Basis Weight, lb. Av.	Caliper, points Max.	Caliper, points Min.	Caliper, points Av.	Bursting Strength, p.s.i. gage Max.	Bursting Strength, p.s.i. gage Min.	Bursting Strength, p.s.i. gage Av.	G. E. Puncture, units Max.	G. E. Puncture, units Min.	G. E. Puncture, units Av.	Elmendorf Tear, g./sheet In Max.	Elmendorf Tear, g./sheet In Min.	Elmendorf Tear, g./sheet In Av.	Elmendorf Tear, g./sheet Across Max.	Elmendorf Tear, g./sheet Across Min.	Elmendorf Tear, g./sheet Across Av.
Mill F--42-lb. Linerboard																							
155100	F-41	W.F.	8/18/53	8/ 1/53	--	45.6	43.0	44.2	14.7	13.0	13.6	135	89	115	38	34	36	416	320	379a	488	400	439a
155061	F-42	W.F.	8/17/53	8/ 1/53	--	44.0	42.0	43.2	13.6	12.3	13.0	138	102	119	38	32	35	512	328	383a	440	384	406a
155101	F-43	W.F.	8/18/53	8/ 3/53	--	41.8	40.4	41.3	13.2	12.0	12.6	120	88	107	36	30	34	384	312	351a	424	368	394[a]
155102	F-44	W.F.	8/18/53	8/ 3/53	--	42.8	40.8	42.0	13.0	12.0	12.5	129	91	113	38	32	35	408	320	364a	456	384	429[a]
155179	F-45	W.F.	8/25/53	8/ 4/53	--	44.0	41.8	42.4	13.4	12.2	12.9	135	88	110	40	32	38	384	328	349a	432	368	397[a]
155180	F-46	W.F.	8/25/53	8/ 7/53	1	44.0	41.0	42.7	13.9	12.8	13.1	130	93	111	38	32	36	424	312	367a	432	360	397[a]
Current Mill Average:								42.6			13.0			113			36			365			410
Cumulative Mill Average:								43.3			14.1			105			39			389			427
Mill Factor, %:								98.4			92.2			107.6			92.3			93.8			96.0
Mill Index, %:								98.8			93.5			106.6			100.0			98.4			101.5

[a] This average includes the readings for one or more specimens which tore beyond the 3/8 -inch limit.

TABLE IX

SUMMARY OF INDIVIDUAL TEST LOTS--AUGUST 1 THROUGH AUGUST 31, 1953 (continued)

File No.	Mill Code	Finish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb. Max.	Basis Weight, lb. Min.	Basis Weight, lb. Av.	Caliper, points Max.	Caliper, points Min.	Caliper, points Av.	Bursting Strength, p.s.i. gage Max.	Bursting Strength, p.s.i. gage Min.	Bursting Strength, p.s.i. gage Av.	G. E. Puncture, units Max.	G. E. Puncture, units Min.	G. E. Puncture, units Av.	Elmendorf Tear, g./sheet In Max.	Elmendorf Tear, g./sheet In Min.	Elmendorf Tear, g./sheet In Av.	Elmendorf Tear, g./sheet Across Max.	Elmendorf Tear, g./sheet Across Min.	Elmendorf Tear, g./sheet Across Av.
Mill G--42-lb. Linerboard																							
154892	G-512	W.F.	8/ 1/53	7/21/53	--	46.6	45.0	45.8	14.6	13.1	13.8	131	87	108	38	34	36	448	336	396a	424	336	373a
154893	G-513	W.F.	8/ 1/53	7/21/53	--	48.2	45.4	46.7	15.1	13.8	14.5	127	79	111	39	35	38	496	328	406[a]	504	344	422a
154958	G-512	W.F.	8/ 7/53	7/30/53	--	46.8	44.0	44.9	13.0	11.9	12.3	143	101	121	35	30	32	376	280	327a	400	328	371a
154959	G-513	W.F.	8/ 7/53	7/30/53	--	46.0	44.0	45.0	12.8	11.5	12.3	138	90	120	34	28	32	376	288	334a	448	328	377a
154999	G-514	W.F.	8/11/53	8/ 4/53	--	44.8	42.0	43.9	12.6	11.7	12.1	137	110	123	34	29	31	408	280	332a	400	344	367a
155000	G-515	W.F.	8/11/53	8/ 4/53	--	45.6	43.6	44.2	12.1	10.9	11.6	153	106	126	34	30	32	432	312	353a	416	312	363a
155169	G-516	W.F.	8/24/53	8/12/53	--	46.8	44.0	45.8	13.1	12.1	12.8	155	112	135	38	34	36	432	256	363a	432	344	380a
155170	G-517	W.F.	8/24/53	8/12/53	--	47.8	44.2	46.2	13.2	11.9	12.6	158	126	142	38	32	35	440	312	352a	448	304	364a
155177	G-518	W.F.	8/24/53	8/17/53	--	46.2	44.0	44.8	13.1	12.1	12.6	161	126	138	36	32	34	368	304	328a	392	328	359a
155172	G-519	W.F.	8/24/53	8/17/53	--	45.0	44.0	44.1	13.0	12.0	12.5	145	104	127	36	32	34	392	288	325a	464	320	364a
Current Mill Average:								45.1			12.7			125			34			352			374
Cumulative Mill Average:								43.0			13.9			108			36			359			394
Mill Factor, %:								104.9			91.4			115.7			94.4			98.1			94.9
Mill Index, %:								104.6			91.4			117.9			94.4			94.9			92.6

TABLE X

Mill H--42-lb. Linerboard																							
154974	H-407	WF1S	8/10/53	7/27/53	2	44.4	43.4	43.9	13.0	11.9	12.4	135	90	108	35	30	32	440	256	352a	496	352	417a
154975	H-408	WF1S	8/10/53	7/30/53	2	44.2	43.0	43.8	13.0	11.9	12.3	127	73	107	34	30	32	440	320	357a	448	336	393a
155053	H-409	WF1S	8/14/53	8/ 3/53	2	44.0	42.0	43.4	12.5	11.9	12.2	152	87	110	37	30	33	392	328	367a	432	360	401a
155054	H-410	WF1S	8/14/53	8/ 4/53	2	44.6	42.6	43.7	12.7	11.8	12.3	130	93	108	35	31	33	408	296	348a	424	328	381a
155146	H-411	WF1S	8/21/53	8/10/53	2	42.4	42.0	42.2	12.5	11.8	12.1	133	95	113	34	29	32	376	280	333[a]	416	328	367[a]
155147	H-412	WF1S	8/21/53	8/11/53	2	44.0	42.0	42.6	12.5	11.4	12.1	126	97	112	35	30	32	400	304	337	488	312	394a
Current Mill Average:								43.3			12.2			109			32			349			392
Cumulative Mill Average:								43.0			13.6			106			35			376			405
Mill Factor, %:								100.7			89.7			102.8			91.4			92.8			96.8
Mill Index, %:								100.5			87.8			102.8			88.9			94.1			97.0

[a] This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

TABLE XI

SUMMARY OF INDIVIDUAL TEST LOTS--AUGUST 1 THROUGH AUGUST 31, 1953 (continued)

File No.	Mill Code	Finish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb.			Caliper, points			Bursting Strength, p.s.i. gage			G. E. Puncture, units			Elmendorf Tear, g./sheet					
																		In			Across		
						Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.
Mill I--42-lb. Linerboard																							
154923	I-320	WFlS	8/ 4/53	7/29/53	1	44.0	41.8	43.2	13.5	12.5	13.1	134	93	112	34	29	32	360	296	331	464	376	394a
155097	I-321	WFlS	8/18/53	8/12/53	1	43.8	42.4	43.1	14.0	12.8	13.2	134	93	112	33	28	31	400	304	345a	432	360	389a
155098	I-322	WFlS	8/18/53	8/14/53	1	43.8	42.6	43.3	13.7	12.8	13.1	121	92	111	34	29	31	480	312	364	456	376	413a
155099	I-323	WFlS	8/18/53	8/14/53	1	44.4	42.8	43.5	14.0	12.9	13.4	134	100	112	34	28	31	432	288	343a	448	368	408a
155138	I-324	W.F.	8/20/53	8/17/53	1	43.8	42.2	43.0	13.6	12.8	13.2	127	89	114	34	30	32	424	272	341a	464	376	424a
155161	I-325	W.F.	8/24/53	8/18/53	1	43.8	42.6	43.3	14.0	13.0	13.4	130	86	112	37	32	35	416	280	337a	472	360	404a
155192	I-326	W.F.	8/26/53	8/21/53	1	43.2	42.0	42.7	13.9	12.3	13.2	127	91	109	38	32	34	424	288	329a	448	368	389a
Current Mill Average:								43.2			13.2			112			32			342			403
Cumulative Mill Average:								42.9			13.4			106			33			344			399
Mill Factor, %:								100.7			98.5			105.7			97.0			99.4			101.0
Mill Index, %:								100.2			95.0			105.7			88.9			92.2			99.8

TABLE XII

Mill J--42-lb. Linerboard																							
154905	J-439	D.F.	8/ 3/53	7/26/53	--	44.7	43.4	44.1	14.4	12.3	13.6	133	84	112	34	29	31	384	312	345a	496	328	383a
154906	J-440	D.F.	8/ 3/53	7/26/53	--	44.6	43.4	44.1	14.2	12.0	13.6	127	82	108	34	30	31	376	296	331a	448	368	398a
155059	J-441	B.F.	8/17/53	8/ 5/53	--	43.8	42.0	42.9	14.8	13.9	14.3	127	85	107	36	30	32	472	312	367a	448	344	393a
155060	J-442	B.F.	8/17/53	8/ 5/53	--	43.6	40.6	42.4	14.8	13.4	14.1	129	86	105	35	30	32	416	248	349a	448	352	397a
155162	J-443	B.F.	8/24/53	8/12/53	--	43.2	41.8	42.2	15.2	13.7	14.0	138	88	111	33	28	31	400	320	340a	384	304	353a
155163	J-444	B.F.	8/24/53	8/12/53	--	44.0	42.0	42.6	14.2	13.0	13.8	129	82	110	33	28	31	376	304	338a	432	320	363a
Current Mill Average:								43.0			13.9			109			31			345			381
Cumulative Mill Average:								42.8			13.8			107			32			353			375
Mill Factor, %:								100.5			100.7			101.9			96.9			97.7			101.6
Mill Index, %:								99.8			100.0			102.8			86.1			93.0			94.3

[a] This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

TABLE XIII

SUMMARY OF INDIVIDUAL TEST LOTS--AUGUST 1 THROUGH AUGUST 31, 1953 (continued)

File No.	Mill Code	Finish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb. Max.	Basis Weight, lb. Min.	Basis Weight, lb. Av.	Caliper, points Max.	Caliper, points Min.	Caliper, points Av.	Bursting Strength, p.s.i. gage Max.	Bursting Strength, p.s.i. gage Min.	Bursting Strength, p.s.i. gage Av.	G. E. Puncture, units Max.	G. E. Puncture, units Min.	G. E. Puncture, units Av.	Elmendorf Tear, g./sheet In Max.	Elmendorf Tear, g./sheet In Min.	Elmendorf Tear, g./sheet In Av.	Elmendorf Tear, g./sheet Across Max.	Elmendorf Tear, g./sheet Across Min.	Elmendorf Tear, g./sheet Across Av.
Mill K--42-lb. Linerboard																							
No samples submitted.																							

TABLE XIV

Mill L--42-lb. Linerboard																							
154890	L-195		8/ 1/53	7/15/53	1	43.8	42.2	43.0	15.0	13.7	14.4	125	80	107	38	33	36	408	352	379	464	368	417[a]
154891	L-196		8/ 1/53	7/16/53	1	44.2	42.4	43.7	14.2	12.8	13.5	131	86	106	39	35	37	456	328	392a	424	344	390a
154925	L-197		8/ 4/53	7/24/53	1	44.0	42.2	43.2	14.0	13.0	13.5	131	89	109	38	34	36	394	296	353a	440	376	397a
154926	L-198		8/ 4/53	7/25/53	1	45.8	43.6	44.4	14.8	13.0	13.8	124	84	103	40	34	37	376	320	351a	416	328	379a
155003	L-199		8/11/53	7/30/53	1	45.8	43.8	44.3	14.2	11.9	12.8	133	90	112	38	34	36	432	304	361a	440	352	384a
155004	L-200		8/11/53	7/31/53	1	45.6	43.8	44.3	13.5	12.0	12.5	131	82	110	38	34	36	400	336	361a	416	352	382a
155103	L-201		8/18/53	8/ 3/53	1	43.8	42.4	43.3	14.3	12.1	13.2	123	89	106	37	32	34	400	312	349a	400	336	367a
155104	L-202		8/18/53	8/ 5/53	1	44.2	41.2	42.8	13.7	10.8	12.5	145	85	107	34	29	32	352	272	326a	400	320	361a
155181	L-203		8/25/53	8/10/53	1	44.2	43.8	44.0	14.0	12.0	13.1	127	86	105	39	34	37	392	320	349a	432	336	367a
155182	L-204		8/25/53	8/13/53	1	45.6	44.0	44.5	14.8	13.0	14.0	118	85	105	38	34	37	392	320	355a	456	360	401a
Current Mill Average:								43.7			13.3			107			36			358			384
Cumulative Mill Average:								43.0			13.7			106			36			360			391
Mill Factor, %:								101.6			97.1			100.9			100.0			99.4			98.2
Mill Index, %:								101.4			95.7			100.0			100.0			96.5			95.0

[a] This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

TABLE XV

SUMMARY OF INDIVIDUAL TEST LOTS--AUGUST 1 THROUGH AUGUST 31, 1953 (continued)

File No.	Mill Code	Finish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb.			Caliper, points			Bursting Strength, p.s.i. gage			G. E. Puncture, units			Elmendorf Tear, g./sheet					
																		In			Across		
						Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.
Mill M--42-lb. Linerboard																							
154924	M-184	W.	8/ 4/53	7/20/53	4	45.2	42.4	44.0	16.3	14.4	15.1	110	81	99	43	35	39	560	392	469a	528	392	435a
154957	M-185	W.	8/ 7/53	7/28/53	4	45.6	42.0	43.6	14.6	13.3	13.8	124	87	108	38	32	35	488	344	424[a]	448	336	405[a]
155001	M-186	W.	8/11/53	8/ 3/53	2	44.4	41.6	42.6	14.0	13.0	13.5	128	89	108	36	30	32	456	304	369	440	344	398a
155002	M-187	W.	8/11/53	8/ 4/53	2	44.0	40.8	42.2	14.0	13.0	13.6	130	84	108	39	32	36	432	352	389	496	376	423[a]
155159	M-188	W.	8/24/53	8/ 9/53	2	45.2	41.8	43.7	14.8	13.5	14.3	109	76	95	43	34	37	416	344	375a	456	368	411a
155160	M-189	W.	8/24/53	8/13/53	2	45.6	43.0	44.2	14.7	13.3	14.0	129	95	110	42	34	38	464	344	381a	472	384	423a
155190	M-190	W.	8/26/53	8/19/53	4	44.2	42.4	43.7	14.7	13.3	13.9	127	93	111	39	34	37	552	400	461a	464	368	397a
155191	M-191	W.	8/26/53	8/20/53	2	45.6	40.0	42.5	13.8	12.6	13.1	131	87	111	39	30	35	392	264	344a	432	360	384a
Current Mill Average:								43.3			13.9			106			36			401			410
Cumulative Mill Average:								42.9			13.7			107			36			387			404
Mill Factor, %:								100.9			101.5			99.1			100.0			103.6			101.5
Mill Index, %:								100.5			100.0			100.0			100.0			108.1			101.5

[a] This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

TABLE XVI

SUMMARY OF INDIVIDUAL TEST LOTS--AUGUST 1 THROUGH AUGUST 31, 1953 (continued)

File No.	Mill Code	Finish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb. Max.	Basis Weight, lb. Min.	Basis Weight, lb. Av.	Caliper, points Max.	Caliper, points Min.	Caliper, points Av.	Bursting Strength, p.s.i. gage Max.	Bursting Strength, p.s.i. gage Min.	Bursting Strength, p.s.i. gage Av.	G. E. Puncture, units Max.	G. E. Puncture, units Min.	G. E. Puncture, units Av.	Elmendorf Tear, g./sheet In Max.	Elmendorf Tear, g./sheet In Min.	Elmendorf Tear, g./sheet In Av.	Elmendorf Tear, g./sheet Across Max.	Elmendorf Tear, g./sheet Across Min.	Elmendorf Tear, g./sheet Across Av.
Mill N--42-lb. Linerboard																							
154987	N-10	----	8/ 1/53	7/15/53	1	42.6	41.0	41.8	12.7	11.8	12.1	120	76	103	32	27	30	352	304	324a	400	336	364[a]
154941	N-11	WFlS	8/ 6/53	7/30/53	---	44.0	42.0	42.6	12.0	11.4	11.7	122	90	106	34	28	30	376	320	353a	416	336	371a
154942	N-12	WFlS	8/ 6/53	7/30/53	---	43.6	40.0	41.8	13.0	11.9	12.4	122	92	105	34	31	33	392	304	350a	416	328	379a
154943	N-13	WFlS	8/ 6/53	7/31/53	---	43.0	41.0	41.8	12.1	10.3	11.6	132	94	114	35	30	32	424	312	350a	400	368	387[a]
154972	N-14	WFlS	8/10/53	8/ 4/53	---	42.2	41.8	42.0	12.7	11.9	12.2	128	73	108	34	28	31	352	264	311a	440	344	378[a]
155032	N-15	----	8/13/53	8/ 9/53	1	44.4	42.8	43.7	13.0	11.6	12.1	132	89	112	36	29	33	408	288	342a	400	360	379a
155058	N-16	----	8/17/53	8/11/53	1	44.0	42.2	42.9	14.0	12.4	13.0	135	94	112	41	35	38	424	256	364a	480	352	398a
155139	N-17	WFlS	8/20/53	8/13/53	1	43.8	42.2	43.1	13.2	11.8	12.6	130	97	115	37	32	35	408	304	356a	416	352	385a
Current Mill Average:								42.4			12.2			109			33			344			380
Cumulative Mill Average:								42.3			12.2			105			30			326			364
Mill Factor, %:								100.2			100.0			103.8			110.0			105.5			104.4
Mill Index, %:								98.4			87.8			102.8			91.7			92.7			94.1

TABLE XVII

Mill O--42-lb. Linerboard

154898	O-4	W.F.	8/ 1/53	7/21/53	3	43.4	41.0	42.2	13.0	12.0	12.4	130	85	112	39	31	35	424	304	357a	416	336	379a
154976	O-5	W.F.	8/10/53	8/ 3/53	3	44.0	41.0	42.5	13.0	11.3	12.4	121	95	109	37	31	35	400	272	343a	408	344	373a
155173	O-6	W.F.	8/24/53	8/17/53	3	43.0	40.4	41.7	13.0	12.0	12.4	141	70	113	40	34	37	392	272	335a	432	344	380a
Current Mill Average:								42.1			12.4			111			36			345			377
Cumulative Mill Average:								41.7			12.0			107			33			338			370
Mill Factor, %:								101.0			103.3			103.7			109.1			102.1			101.9
Mill Index, %:								97.7			89.2			104.7			100.0			93.0			93.3

[a] This average includes the readings for one or more specimens which tore beyond the 3/ 8-inch limit.

TABLE XVIII

SUMMARY OF INDIVIDUAL TEST LOTS--AUGUST 1 THROUGH AUGUST 31, 1953 (continued)

File No.	Mill Code	Finish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb. Max.	Basis Weight, lb. Min.	Basis Weight, lb. Av.	Caliper, points Max.	Caliper, points Min.	Caliper, points Av.	Bursting Strength, p.s.i. gage Max.	Bursting Strength, p.s.i. gage Min.	Bursting Strength, p.s.i. gage Av.	G. E. Puncture, units Max.	G. E. Puncture, units Min.	G. E. Puncture, units Av.	Elmendorf Tear, g./sheet In Max.	Elmendorf Tear, g./sheet In Min.	Elmendorf Tear, g./sheet In Av.	Elmendorf Tear, g./sheet Across Max.	Elmendorf Tear, g./sheet Across Min.	Elmendorf Tear, g./sheet Across Av.
Mill E--44/46-lb. Drum Linerboard																							
154960	E-22[b]	W.F.	8/ 7/53	7/27/53	2	49.2	46.2	47.4	15.3	12.3	14.1	124	79	103	40	34	36	472	296	407a	440	352	395[a]
154961	E-23[b]	W.F.	8/ 7/53	8/ 4/53	2	44.0	42.0	43.2	14.2	12.7	13.6	128	93	112	34	29	32	384	304	338a	400	352	375a
155202	E-27[c]	W.F.	8/27/52	8/24/53	2	49.4	46.4	47.9	15.7	12.5	14.5	137	85	106	45	36	41	480	352	413a	488	392	443a
Current Mill Average:								46.1			14.1			107			37			386			404
Cumulative Mill Average:								47.2			14.4			101			40			439			418
Mill Factor, %:								97.7			97.9			105.9			92.5			87.9			96.7

[a] This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

[b] This sample was identified as 47-lb. Linerboard.

[c] This sample was identified as 47-lb. Drum Linerboard.

As a supplementary part of the Continuous Baseline Study, comparisons of the mill test results with those obtained at The Institute of Paper Chemistry on corresponding samples have been included in this report. As may be noted in Table XIX, the atmospheric conditions used prior to and during the testing period varied considerably.

TABLE XIX

Mill Code	Preconditioning R.H., %	Temp., ° F.	Time, hr.	Conditioning R.H., %	Temp., ° F.	Time, hr.
A		None		57-70	80-91	—
B	38-68	84-88	0.5	50	70	48-216
C	50	73	36-99	50	73	36-99
D	31-32	77-78	8	50-53	71-73	16
E		None		53-76	80-92	--
F		None		35-53	72-77	24-96
G		None		50	73	24
H*	50	73	--	50	73	24
I		None		49-52	82-90	—
J		None		50	73	0.5
K		No samples submitted.				
L		None		55-70	80-97	--
M		None		49-65	72-77	—
N		None		50	73	12-24
O		None		50	73	2
E**		None		51-70	86-92	--

* Preconditioning data apply only to sample H-412.
** Drum linerboard.

A summary of the mill comparisons for the current period as compared with the previous period may be seen in Tables XX and XXI, respectively. The comparison for the various mills is given in Tables XXII to XXXVI, for the 42-lb. liner samples. A comparison of the special drum stock is given in Table XXXVII. In all the comparisons given in

Tables XX to XXXVII, the Institute's test values have been used as the reference line.

A comparison of the test data in Tables XX and XXI indicates that in the majority of cases there is good agreement between the mill and Institute data. Table XX shows the average difference encountered in the comparison of Institute and mill results for the sample lots submitted by each mill for the current period, as well as the maximum difference encountered in comparing the Institute and mill test results for a given sample lot. In Table XXI, the average differences shown for each test in Table XX have been calculated on a percentage basis for each mill. In addition, for purposes of comparison, the average percentage differences for the preceding two periods are shown.

It may be noted in Table XXI that the maximum variation between the average basis weight results of the Institute and those of a given mill on corresponding samples is two per cent for the current period. This figure compares favorably with the maximum variation of two per cent for the preceding two periods. Further, it may be noted that the average basis weight results for Mills E, H, J, and O are higher than those for the Institute, whereas the results for Mills A, B, C, F, G, I, L, M, and N are lower and the result for Mill D is the same. In general, the agreement in basis weight results is very good for the current period.

The maximum variation in caliper for the current period is seven per cent. Compared with the values for the Institute, the average results for Mills A, B, and O are higher while the average

results for Mills C, D, E, F, G, I, L, M, and N are lower and the results for Mills H and J are the same. The accord between Institute and mill caliper values is good with the exception of Mill M.

It may be noted in Table XXI that the bursting strength results exhibit a maximum variation of seven per cent for the current period. The average results for Mills B, L. and M are higher than those for the Institute, whereas the results for Mills C, D, E, F, G, H, I, J, N and O are lower and the result for Mill A is the same. The agreement in bursting strength results is very good with the exception of Mills E and F.

The G. E. puncture results exhibit a maximum variation of ten per cent for the current period. Compared with the values for the Institute, the results for Mills A, E, F, H, I, and J are higher, whereas the results for Mills B, C, G, and M are lower. The agreement between the Institute and mill results is very good with the exception of the variations for Mills F, I, and J.

It may be seen in Tables XX and XXI that the average machine direction tear results for Mills A, D, E, G, I, L, and M are higher than those for the Institute whereas the results for the other mills are lower. The maximum variation for the current period is twelve per cent. The differences encountered for Mills I and L appear to be excessive.

With regard to the cross-machine direction tear results, it may be noted that the average results for Mills B, C, D, F, G, I, J,

L, M, N. and O are higher than those for the Institute whereas the average results for the other mills are lower. The maximum variation for the current period is fourteen per cent. The differences for Mills I, L, M, and N appear to be excessive.

TABLE XX

SUMMARY OF TEST RESULT COMPARISONS
(Average Mill and Institute Results)

	Mills*													
	A	B	C	D	E	F	G	H	I	J	L	M	N	O
No. Samples Compared	10	16	8	14	4	6	10	6	7	6	10	8	8	3
Basis Weight														
Institute	42.8	42.8	43.7	43.4	41.9	42.6	45.1	43.3	43.2	43.0	43.7	43.3	42.4	42.1
Mill	42.5	42.1	43.4	43.4	42.8	41.9	44.1	43.6	42.3	43.7	43.2	42.8	42.2	42.2
Av. Diff.**	-0.3	-0.7	-0.3	0.0	+0.9	-0.7	-1.0	+0.3	-0.9	+0.7	-0.5	-0.5	-0.2	+0.1
Max. Diff.***	-0.8	-1.4	-0.7	+1.3	+1.6	-1.2	-4.7	+0.9	-1.1	+0.8	-1.1	-1.9	-0.8	+0.2
Caliper														
Institute	12.4	12.4	14.5	12.8	12.9	13.0	12.7	12.2	13.2	13.9	13.3	13.9	12.2	12.4
Mill	12.6	12.5	14.2	12.7	12.6	12.6	12.6	12.2	13.1	13.9	13.0	12.9	11.9	12.6
Av. Diff.**	+0.2	+0.1	-0.3	-0.1	-0.3	-0.4	-0.1	0.0	-0.1	0.0	-0.3	-1.0	-0.3	+0.2
Max. Diff.***	+0.4	+0.4	-0.4	±0.3	-0.5	-0.5	-0.2	-0.3	-0.4	-0.4	-1.1	-1.6	-0.5	+0.3
Bursting Strength														
Institute	113	108	107	107	106	113	125	109	112	109	107	106	109	111
Mill	113	110	104	105	100	105	122	106	108	108	108	110	104	110
Av. Diff.**	0	+2	-3	-2	-6	-8	-3	-3	-4	-1	+1	+4	-5	-1
Max. Diff.***	-13	+7	-6	-7	-10	-12	-9	-7	-7	-6	+5	+11	-13	-5
G. E. Puncture														
Institute	33	29	35	35	30	36	34	32	32	31	36	36	33	36
Mill	34	27	34	—	32	39	32	33	35	34	—	34	—	—
Av. Diff.**	+1	-2	-1	—	+2	+3	-2	+1	+3	+3	—	-2	—	—
Max. Diff.***	+5	-3	±2	—	+4	+4	-4	+1	+5	+5	—	-7	—	—

(Continued on next page.)

TABLE XX (Cont.)

SUMMARY OF TEST RESULT COMPARISONS
(Average Mill and Institute Results)

	A	B	C	D	E	F	G	H	I	J	L	M	N	O
No. Samples Compared	10	16	8	14	4	6	10	6	7	6	10	8	8	3
						Tearing Strength, in								
Institute	323	292	340	369	336	365	352	349	342	345	358	401	344	345
Mill	327	276	335	374	338	356	361	336	384	332	397	431	336	340
Av. Diff.**	+4	-16	-5	+5	+2	-9	+9	-13	+42	-13	+39	+30	-8	-5
Max. Diff.***	-37	-39	-20	+28	-42	-34	+45	-37	+73	-26	+62	+97	-39	-16
						Tearing Strength, across								
Institute	377	335	378	385	356	410	374	392	403	381	384	410	380	377
Mill	373	336	399	409	333	413	378	377	443	401	436	450	426	400
Av. Diff.**	-4	+1	+21	+24	-23	+3	+4	-15	+40	+20	+52	+40	+46	+23
Max. Diff.***	-28	+25	+43	+55	-66	+30	+35	-38	+57	+32	+77	+97	+69	+30

* Comparison based on averages involves only those samples on which mill test data were submitted.
** Average difference is the difference between the Institute mill average and the mill average based on mill test data.
*** Maximum difference encountered in comparing the Institute average and the mill average for any sample submitted by that particular mill.

TABLE XXI

COMPARISON OF INSTITUTE-MILL DIFFERENCES BY PERIODS

	Average Difference, per cent					
	Basis Weight	Caliper	Bursting Strength	G. E. Puncture	Tearing Strength in	Strength across
Mill A						
Current period	-0.7	+2	0	+3	+1	-1
73rd period	-1	-0.8	+2	+3	-0.9	-0.8
72nd period	-0.5	-0.8	+3	+6	-5	-2
Mill B						
Current period	-2	+0.8	+2	-7	-5	+0.3
73rd period	-1	-0.8	0	-4	-4	+2
72nd period	-0.5	+0.8	+0.9	-4	-5	-1
Mill C						
Current period	-0.7	-2	-3	-3	-1	+6
73rd period	+0.5	-4	+3	0	+4	+12
72nd period	+0.5	-5	+6	0	-7	+2
Mill D						
Current period	0	-0.8	-2	--	+1	+6
73rd period	+0.9	0	-2	--	-0.8	+3
72nd period	-2	-0.8	-3	--	+2	+5
Mill E						
Current period	+2	-2	-6	+7	+0.6	-6
73rd period	+0.2	-6	-10	+3	-7	-6
72nd period	+0.9	-7	-3	0	-12	-8
Mill F						
Current period	-2	-3	-7	+8	-2	+0.7
73rd period	-0.9	-0.8	+2	+11	-2	+4
72nd period	-0.2	-0.8	+7	+11	+3	+8
Mill G						
Current period	-2	-0.8	-2	-6	+3	+1
73rd period	0	0	-4	0	+3	+5
72nd period	+0.9	+2	-4	+6	+2	+5
Mill H						
Current period	+0.7	0	-3	+3	-4	-4
73rd period	+2	+2	-4	0	-8	-3
72nd period	+0.7	+0.8	-0.9	+3	-5	-6
Mill I						
Current period	-2	-0.8	-4	+9	+12	+10
73rd period	-1	-1	-2	-3	+10	+11
72nd period	-0.9	-3	+2	-3	+5	+10
Mill J						
Current period	+2	0	-0.9	+10	-4	+5
73rd period	+1	+2	-2	+3	+0.3	+8
72nd period	+1	+1	-4	+9	+2	+13
Mill L						
Current period	-1	-2	+0.9	--	+11	+14
73rd period	-0.9	-4	+4	--	+4	+6
72nd period	-1	-2	+2	--	+12	+18
Mill M						
Current period	-1	-7	+4	-6	+7	+10
73rd period	-0.7	-7	+2	-6	+5	+7
72nd period	-0.2	-7	0	0	+4	+9
Mill N						
Current period	-0.5	-2	-5	--	-2	+12
73rd period	-0.5	-5	-1	--	-7	+6
72nd period	--	--	--	--	--	--
Mill O						
Current period	+0.2	+2	-0.9	--	-1	+6
73rd period	+1	+2	+2	--	-7	+1
72nd period	+0.7	-2	--	--	-8	+2

TABLE XXII

SUMMARY OF INDIVIDUAL TEST LOTS--AUGUST 1 THROUGH AUGUST 31, 1953

Institute Data versus Mill Data

File No.	Mill Code	Finish	Date Made	Mch. No.	Basis Weight, lb.			Caliper, points			Bursting Strength, p.s.i. gage			G. E. Puncture, p.s.i. gage			Elmendorf Tear, g./sheet					
																	In			Across		
					IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.
Mill A--42-lb. Linerboard																						
154894	A-466	WF1S	7/19/53	1	43.9	43.1	-0.8	12.4	12.3	-0.1	114	114	0	33	35	+ 2	341a	325	-16	393a	378	-15
154895	A-467	WF1S	7/20/53	2	43.3	42.6	-0.7	12.8	12.9	+0.1	111	112	+1	33	35	+ 2	311	316	+ 5	385a	364	-21
154903	A-468	WF1S	7/26/53	2	42.8	42.5	-0.3	12.6	12.8	+0.2	112	111	-1	32	34	+ 2	302a	314	+12	389a	372	-17
154904	A-469	WF1S	7/26/53	1	42.4	42.5	+0.1	12.1	12.4	+0.3	125	112	-13	32	34	+ 2	330a	308	-22	396a	368	-28
154977	A-470	WF1S	8/ 2/53	2	42.8	42.3	-0.5	12.7	12.8	+0.1	114	116	+2	32	34	+ 2	340a	332	- 8	383a	388	+ 5
154978	A-471	WF1S	8/ 4/53	2	42.8	42.3	-0.5	12.6	12.9	+0.3	114	116	+2	33	36	+ 3	317a	334	-17	380a	376	- 4
155051	A-472	WF1S	8/ 9/53	2	42.2	42.2	0.0	12.3	12.2	-0.1	110	109	-1	33	35	+ 2	331a	368	-37	366a	375	+ 9
155052	A-473	WF1S	8/10/53	1	42.8	42.7	-0.1	12.2	12.2	0.0	110	111	+ 1	31	36	+ 5	329a	336	+ 7	359a	368	+ 9
155167	A-474	WF1S	8/16/53	2	42.8	42.2	-0.6	12.4	12.7	+0.3	106	115	+ 9	35	31	- 4	317	306	-11	349a	361	+12
155168	A-475	WF1S	8/16/53	1	42.6	42.8	+0.2	12.4	12.8	+0.4	110	113	+ 3	33	32	- 1	313a	330	+17	371a	382	+11
Current Mill Average:					42.8	42.5	-0.3	12.4	12.6	+0.2	113	113	0	33	34	+ 1	323	327	+ 4	377	373	- 4

[a] This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note: All "current mill average" data are calculated from the totals of the individual readings.

TABLE XXIII

SUMMARY OF INDIVIDUAL TEST LOTS--AUGUST 1 THROUGH AUGUST 31, 1953 (continued)

Institute Data versus Mill Data

File No.	Mill Code	Finish	Date Made	Mch. No.	Basis Weight, lb.			Caliper, points			Bursting Strength, p.s.i. gage			G. E. Puncture, units			Elmendorf Tear, g./sheet In			Elmendorf Tear, g./sheet Across		
					IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.
Mill B--42-lb. Linerboard																						
154886	B-839	WF1S	7/21/53	1	42.5	42.0	-0.5	12.5	12.6	+0.1	99	104	+ 5	27	27	0	283a	264	-19	321a	332	+11
154887	B-840	WF1S	7/21/53	1	42.7	42.1	-0.6	12.6	12.7	+0.1	97	104	+ 7	28	26	- 2	283a	250	-33	319a	321	+ 2
154888	B-841	WF1S	7/21/53	1	42.4	42.0	-0.4	12.3	12.6	+0.3	101	105	+ 4	28	25	- 3	270a	263	- 7	305a	329	+24
154889	B-842	WF1S	7/21/53	1	42.5	42.1	-0.4	12.4	12.7	+0.3	101	103	+ 2	28	26	- 2	270a	263	- 7	319a	344	+25
154919	B-843	WF1S	7/21/53	1	43.0	42.2	-0.8	12.6	12.7	+0.1	102	104	+ 2	28	27	0	260a	264	+ 4	315a	313	- 2
154920	B-844	WF1S	7/21/53	1	42.6	42.2	-0.4	12.4	12.6	+0.2	103	104	+ 1	28	27	- 1	287	270	-17	319a	313	- 6
154921	B-845	WF1S	7/21/53	1	42.2	42.0	-0.2	12.5	12.7	+0.2	101	102	+ 1	27	28	+ 1	283	281	- 2	314a	327	+13
154922	B-846	WF1S	7/21/53	1	42.2	41.9	-0.3	12.4	12.7	+0.3	103	102	- 1	27	28	+ 1	274	284	+10	326a	319	- 7
155105	B-847	WF1S	8/10/53	1	43.3	42.1	-1.2	12.4	12.4	0.0	114	114	0	30	27	- 3	301	294	- 7	345a	354	+ 9
155106	B-848	WF1S	8/10/53	1	43.4	42.0	-1.4	12.0	12.4	+0.4	117	117	0	29	26	- 3	307a	277	-30	353a	341	-12
155107	B-849	WF1S	8/10/53	1	43.0	42.0	-1.0	12.4	12.4	0.0	116	117	+ 1	29	26	- 3	313	288	-25	363a	342	-21
155108	B-850	WF1S	8/10/53	1	43.2	42.3	-0.9	12.3	12.5	+0.2	113	115	+ 2	30	28	- 2	333	301	-32	359a	364	+ 5
155155	B-851	WF1S	8/10/53	1	43.4	42.5	-0.9	12.2	12.2	0.0	116	116	0	31	28	- 3	297	278	-19	365a	347	-18
155156	B-852	WF1S	8/10/53	1	43.3	42.3	-1.0	12.3	12.3	0.0	116	116	0	31	28	- 3	301a	274	-27	353a	348	- 5
155157	B-853	WF1S	8/10/53	1	42.6	42.2	-0.4	12.3	12.3	0.0	115	116	+ 1	30	28	- 2	297a	286	-11	335a	344	+ 9
155158	B-854	WF1S	8/10/53	1	42.5	42.2	-0.3	12.4	12.4	0.0	112	115	+ 3	31	28	- 3	318a	279	-39	352a	344	- 8
Current Mill Average:					42.8	42.1	-0.7	12.4	12.5	+0.1	108	110	+ 2	29	27	- 2	292	276	-16	335	336	+ 1

[a] This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note: All "current mill average" data are calculated from the totals of the individual readings.

TABLE XXIV

SUMMARY OF INDIVIDUAL TEST LOTS--AUGUST 1 THROUGH AUGUST 31, 1953 (continued)

Institute Data versus Mill Data

File No.	Mill Code	Finish	Date Made	Mch. No.	Basis Weight, lb.			Caliper, points			Bursting Strength, p.s.i. gage			G. E. Puncture, units			Elemendorf Tear, g./sheet In			Elemendorf Tear, g./sheet Across		
					IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.
Mill C--42-lb. Linerboard																						
155062	C-491	W.F.	8/ 6/53	1	44.4	44.4	0.0	14.7	14.3	-0.4	106	103	- 3	37	36	- 1	343a	335	- 8	390a	404	+14
155063	C-492	W.F.	8/ 6/53	1	44.0	44.1	+0.1	14.6	14.2	-0.4	104	102	- 2	36	38	+ 2	349	350	+ 1	381a	409	+28
155064	C-493	W.F.	8/ 8/53	1	42.0	41.9	-0.1	13.8	13.5	-0.3	113	110	- 3	32	32	0	339a	324	-15	369a	384	+15
155065	C-494	W.F.	8/ 8/53	1	42.1	42.0	-0.1	13.8	13.6	-0.2	113	108	- 5	32	31	- 1	305a	318	+13	359a	382	+23
155066	C-495	W.F.	8/10/53	1	44.2	43.7	-0.5	14.5	14.4	-0.1	109	103	- 6	34	34	0	342a	328	-14	373a	378	+ 5
155067	C-496	W.F.	8/10/53	1	44.4	42.9	-0.5	14.5	14.4	-0.1	106	105	- 1	35	34	- 1	351a	331	-20	379a	422	+43
155068	C-497	W.F.	8/11/53	1	44.2	43.5	-0.7	14.9	14.8	-0.1	103	101	- 2	36	35	- 1	332a	349	+17	393a	413	+20
155069	C-498	W.F.	8/11/53	1	44.1	43.5	-0.6	14.9	14.7	-0.2	105	102	- 3	37	35	- 2	357a	348	- 9	383a	398	+15
Current Mill Average:					43.7	43.4	-0.3	14.5	14.2	-0.3	107	104	- 3	35	34	- 1	340	335	- 5	378	399	+21

[a] This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note: All "current mill average" data are calculated from the totals of the individual readings.

TABLE XXV

SUMMARY OF INDIVIDUAL TEST LOTS--AUGUST 1 THROUGH AUGUST 31, 1953 (continued)

Institute Data versus Mill Data

File No.	Mill Code	Finish	Date Made	Mch. No.	Basis Weight, lb.			Caliper, points			Bursting Strength, p.s.i. gage			G. E. Puncture, units			Elmendorf Tear, g./sheet					
																	In			Across		
					IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.
Mill D--42-lb. Linerboard																						
154899	D-673	W.F.	7/26/53	4	43.0	44.3	+1.3	13.3	13.1	-0.2	110	106	- 4	36			383a	380	- 3	409a	425	+16
154900	D-674	W.F.	7/27/53	4	43.5	44.7	+1.2	13.3	13.1	-0.2	108	108	0	36			365a	387	+22	399a	432	+33
154901	D-675	W.F.	7/28/53	4	43.8	44.3	+0.5	13.4	13.3	-0.1	103	102	- 1	36			377a	378	+ 1	380a	414	+34
154902	D-676	W.F.	7/29/53	4	42.7	43.7	+1.0	12.9	12.9	0.0	108	104	- 4	36			365a	340	-25	395a	392	- 3
154918	D-677	D.F.	8/ 1/53	4	44.5	45.0	+0.5	12.8	12.7	-0.1	107	106	- 1	35			353a	381	+28	393a	428	+35
154934	D-678	W.F.	8/ 2/53	4	45.0	44.5	-0.5	13.0	12.9	-0.1	108	108	0	37			372[a]	392	+20	404a	414	+10
154934	D-679	W.F.	8/ 3/53	4	42.7	42.3	-0.4	12.2	12.5	+0.3	101	102	+ 1	34			359a	383	+24	363a	418	+55
154948	D-680	W.F.	8/ 4/53	4	43.4	42.5	-0.9	12.2	12.3	+0.1	113	110	- 3	34			384a	385	+ 1	400a	421	+21
154956	D-681	W.F.	8/ 5/53	4	42.1	42.1	0.0	12.6	12.5	-0.1	109	102	- 7	32			351a	356	+ 5	359a	385	+26
155008	D-682	W.F.	8/ 6/53	4	44.2	43.8	-0.4	13.0	12.9	-0.1	107	103	- 4	36			373a	374	+ 1	387a	418	+31
155027	D-683	W.F.	8/ 9/53	4	41.9	41.7	-0.2	12.4	12.2	-0.2	109	104	- 5	34			355a	359	+ 4	367a	377	+10
155028	D-684	W.F.	8/10/53	4	43.7	42.7	-1.0	12.6	12.5	-0.1	106	107	+ 1	34			365a	364	- 1	393a	404	+11
155033	D-685	W.F.	8/11/53	4	43.5	42.9	-0.6	12.7	12.7	0.0	105	104	- 1	32			380a	374	- 6	367a	401	+34
155164	D-686	W.F.	8/20/53	4	43.5	43.0	-0.5	12.9	12.6	-0.3	108	102	- 6	36			381a	376	- 5	371a	398	+27
Current Mill Average:					43.4	43.4	0.0	12.8	12.7	-0.1	107	105	- 2	35			369	374	+ 5	385	409	+24

[a] This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note: All "current mill average" data are calculated from the totals of the individual readings.

TABLE XXVI

SUMMARY OF INDIVIDUAL TEST LOTS--AUGUST 1 THROUGH AUGUST 31, 1953 (continued)

Institute Data versus Mill Data

File No.	Mill Code	Finish	Date Made	Mch. No.	Basis Weight, lb.			Caliper, points			Bursting Strength, p.s.i. gage			G. E. Puncture, units			Elmendorf Tear, g./sheet In			Elmendorf Tear, g./sheet Across		
					IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.
Mill E--42-lb. Linerboard																						
154896	E-21	W.F.	7/25/53	2	42.6	42.8	+0.2	13.9	13.4	-0.5	95	94	- 1	32	34	+ 2	369a	327	-42	362a	296	-66
154973	E-24	W.F.	8/ 6/53	2	41.1	42.2	+1.1	12.3	12.2	-0.1	112	104	- 8	26	30	+ 4	317a	338	+21	341a	349	+ 8
155057	E-25	W.F.	8/10/53	2	41.5	42.2	+0.7	12.5	12.2	-0.3	116	106	-10	29	30	+ 1	319a	314	- 5	351a	341	-10
155120	E-26	W.F.	8/17/53	2	42.2	43.8	+1.6	12.8	12.4	-0.4	103	97	- 6	32	36	+ 4	339	372	+33	368a	346	-22
Current Mill Average					41.9	42.8	+0.9	12.9	12.6	-0.3	106	100	- 6	30	32	+ 2	336	338	+ 2	356	333	-23

TABLE XXVII

Mill F--42-lb. Linerboard																						
155100	F-41	W.F.	8/ 1/53	--	44.2	43.0	-1.2	13.6	13.2	-0.4	115	103	-12	36	39	+ 3	379a	359	-20	439a	425	-14
155061	F-42	W.F.	8/ 1/53	--	43.2	42.5	-0.7	13.0	12.9	-0.1	119	108	-11	35	39	+ 4	383a	349	-34	406a	392	-14
155101	F-43	W.F.	8/ 3/53	--	41.3	40.9	-0.4	12.6	12.1	-0.5	107	103	- 4	34	38	+ 4	351a	348	- 3	394a	396	+ 2
155102	F-44	W.F.	8/ 3/53	--	42.0	41.3	-0.7	12.5	12.1	-0.4	113	106	- 7	35	39	+ 4	364a	352	-12	429a	419	-10
155179	F-45	W.F.	8/ 4/53	--	42.4	42.1	-0.3	12.9	12.6	-0.3	110	109	- 1	38	39	+ 1	349a	361	+12	397a	420	+23
155180	F-46	W.F.	8/ 7/53	1	42.7	41.7	-1.0	13.1	12.8	-0.3	111	102	- 9	36	39	+ 3	367a	367	0	397a	427	+30
Current Mill Average:					42.6	41.9	-0.7	13.0	12.6	-0.4	113	105	- 8	36	39	+ 3	365	356	- 9	410	413	+ 3

[a] This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note: All "current mill average" data are calculated from the totals of the individual readings.

TABLE XXVIII

SUMMARY OF INDIVIDUAL TEST LOTS--AUGUST 1 THROUGH AUGUST 31, 1953 (continued)

Institute Data versus Mill Data

File No.	Mill Code	Finish	Date Made	Mch. No.	Basis Weight, lb.			Caliper, points			Bursting Strength, p.s.i. gage			G. E. Puncture, units			Elmendorf Tear, g./sheet In			Elmendorf Tear, g./sheet Across		
					IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.
Mill G--42-lb. Linerboard																						
154892	G-512	W.F.	7/21/53	--	45.8	41.1	-4.7	13.8	13.8	0.0	108	107	- 1	36	35	- 1	396a	400	+ 4	373a	374	+ 1
154893	G-513	W.F.	7/21/53	--	46.7	42.1	-4.6	14.5	14.4	-0.1	111	110	- 1	38	37	- 1	406a	414	+ 8	422a	402	-20
154958	G-512	W.F.	7/30/53	--	44.9	44.5	-0.4	12.3	12.3	0.0	121	116	- 5	32	28	- 4	327a	323	- 4	371a	366	- 5
154959	G-513	W.F.	7/30/53	--	45.0	45.0	0.0	12.3	12.2	-0.1	120	111	- 9	32	29	- 3	334a	337	+ 3	377a	362	-15
154999	G-514	W.F.	8/ 4/53	--	43.9	44.2	+0.3	12.1	12.1	0.0	123	117	- 6	31	32	+ 1	332a	377	+45	367a	363	- 4
155000	G-515	W.F.	8/ 4/53	--	44.2	44.2	0.0	11.6	11.5	-0.1	126	120	- 6	32	31	- 1	353a	343	-10	363a	361	- 2
155169	G-516	W.F.	8/12/53	--	45.8	45.3	-0.5	12.8	12.6	-0.2	135	133	- 2	36	34	- 2	363a	361	- 2	380a	396	+16
155170	G-517	W.F.	8/12/53	--	46.2	46.3	+0.1	12.6	12.5	-0.1	142	138	- 4	35	33	- 2	352a	348	- 4	364a	399	+35
155171	G-518	W.F.	8/17/53	--	44.8	44.4	-0.4	12.6	12.5	-0.1	138	133	- 5	34	30	- 4	328a	346	+18	359a	380	+21
155172	G-519	W.F.	8/17/53	--	44.1	44.2	+0.1	12.5	12.6	+0.1	127	131	+ 4	34	32	- 2	325a	361	+36	364a	375	+11
Current Mill Average:					45.1	44.1	-1.0	12.7	12.6	-0.1	125	122	- 3	34	32	- 2	352	361	+ 9	374	378	+ 4

TABLE XXIX

Mill H--42-lb. Linerboard																						
154974	H-407	WF1S	7/27/53	2	43.9	43.6	-0.3	12.4	12.1	-0.3	108	105	- 3	32	33	+ 1	352a	337	-15	417a	379	-38
154975	H-408	WF1S	7/30/53	2	43.8	44.0	+0.2	12.3	12.1	-0.2	107	106	- 1	32	33	+ 1	357a	349	- 8	393a	383	-10
155053	H-409	WF1S	8/ 3/53	2	43.4	43.9	+0.5	12.2	12.1	-0.1	110	105	- 5	33	33	0	367a	330	-37	401a	384	-17
155054	H-410	WF1S	8/ 4/53	2	43.7	43.9	+0.2	12.3	12.5	+0.2	108	107	- 1	33	33	0	348a	334	-14	381a	390	+ 9
155146	H-411	WF1S	8/10/53	2	42.2	43.1	+0.9	12.1	12.2	+0.1	113	106	- 7	32	33	+ 1	333a	316	-17	367a	361	- 6
155147	H-412	WF1S	8/11/53	2	42.6	43.0	+0.4	12.1	12.2	+0.1	112	105	- 7	32	33	+ 1	337	350	+13	394a	367	-27
Current Mill Average:					43.3	43.6	+0.3	12.2	12.2	0.0	109	106	- 3	32	33	+ 1	349	336	-13	392	377	-15

[a] This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note: All "current mill average" data are calculated from the the totals of the individual readings.

TABLE XXX

SUMMARY OF INDIVIDUAL TEST LOTS--AUGUST 1 THROUGH AUGUST 31, 1953 (continued)

File No.	Mill Code	Finish	Date Made	Mch. No.	Basis Weight, lb. IPC	Basis Weight, lb. Mill	Basis Weight, lb. Diff.	Caliper, points IPC	Caliper, points Mill	Caliper, points Diff.	Bursting Strength, p.s.i. gage IPC	Bursting Strength, p.s.i. gage Mill	Bursting Strength, p.s.i. gage Diff.	G. E. Puncture, units IPC	G. E. Puncture, units Mill	G. E. Puncture, units Diff.	Elmendorf Tear, g./sheet In IPC	Elmendorf Tear, g./sheet In Mill	Elmendorf Tear, g./sheet In Diff.	Elmendorf Tear, g./sheet Across IPC	Elmendorf Tear, g./sheet Across Mill	Elmendorf Tear, g./sheet Across Diff.
Mill I--42-lb. Linerboard																						
154923	I-320	WF1S	7/29/53	1	43.2	42.6	-0.6	13.1	13.3	+0.2	112	111	- 1	32	33	+ 1	331	404	+73	394a	447	+53
155097	I-321	WF1S	8/12/53	1	43.1	42.4	-0.7	13.2	13.1	-0.1	112	106	- 6	31	33	+ 2	345a	364	+19	389a	446	+57
155098	I-322	WF1S	8/14/53	1	43.3	42.4	-0.9	13.1	13.1	0.0	111	106	- 5	31	33	+ 2	364	382	+18	413a	453	+40
155099	I-323	WF1S	8/14/53	1	43.5	42.4	-1.1	13.4	13.2	-0.2	112	106	- 6	31	34	+ 3	343a	359	+16	408a	443	+35
155138	I-324	W.F.	8/17/53	1	43.0	42.5	-0.5	13.2	13.1	-0.1	114	107	- 7	32	37	+ 5	341a	399	+58	424a	445	+21
155161	I-325	W.F.	8/18/53	1	43.3	42.2	-1.1	13.4	13.0	-0.4	112	108	- 4	35	38	+ 3	337a	395	+58	404a	437	+33
155192	I-326	W.F.	8/21/53	1	42.7	42.1	-0.6	13.2	13.0	-0.2	109	109	0	34	38	+ 4	329a	385	+56	389a	427	+38
Current Mill Average:					43.2	42.3	-0.9	13.2	13.1	-0.1	112	108	- 4	32	35	+ 3	342	384	+42	403	443	+40

[a] This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note: All "current mill average" data are calculated from the totals of the individual readings.

TABLE XXXI

SUMMARY OF INDIVIDUAL TEST LOTS--AUGUST 1 THROUGH AUGUST 31, 1953 (continued)

Institute Data versus Mill Data

File No.	Mill Code	Finish	Date Made	Mch. No.	Basis Weight, lb. IPC	Mill	Diff.	Caliper, points IPC	Mill	Diff.	Bursting Strength, p.s.i. gage IPC	Mill	Diff.	G. E. Puncture, units IPC	Mill	Diff.	Elmendorf Tear, g./sheet In IPC	Mill	Diff.	Across IPC	Mill	Diff.
											Mill J--42-lb. Linerboard											
154905	J-439	D.F.	7/26/53	--	44.1	44.9	+0.8	13.6	13.8	+0.2	112	114	+ 2	31	36	+ 5	345a	319	-26	383a	415	+32
154906	J-440	D.F.	7/26/53	--	44.1	44.9	+0.8	13.6	13.8	+0.2	108	110	+ 2	31	34	+ 3	331a	333	+ 2	398a	409	+11
155059	J-441	B.F.	8/ 5/53	--	42.9	43.3	+0.4	14.3	14.1	-0.2	107	106	- 1	32	35	+ 3	367a	351	-16	393a	401	+ 8
155060	J-442	B.F.	8/ 5/53	--	42.4	43.2	+0.8	14.1	14.1	0.0	105	103	- 2	32	34	+ 2	349a	346	- 3	397a	423	+26
155162	J-443	B.F.	8/12/53	---	42.2	43.0	+0.8	14.0	13.6	-0.4	111	108	- 3	31	31	0	340a	329	-11	353a	375	+22
155163	J-444	B.F.	8/12/53	--	42.6	43.0	+0.4	13.8	13.8	0.0	110	104	- 6	31	36	+ 5	338a	316	-22	363a	383	+20
Current Mill Average:					43.0	43.7	+0.7	13.9	13.9	0.0	109	108	- 1	31	34	+ 3	345	332	-13	381	401	+20

TABLE XXXII

Mill K--42-lb. Linerboard

No samples submitted.

TABLE XXXIII

Mill L--42-lb. Linerboard

154890	L-195		7/15/53	1	43.0	42.7	-0.3	14.4	14.1	-0.3	107	112	+ 5	36			379	399	+20	417a	430	+13
154891	L-196		7/16/53	1	43.7	42.8	-0.9	13.5	13.4	-0.1	106	109	+ 3	37			392a	396	+ 4	390a	428	+38
154925	L-197		7/24/53	1	43.2	42.6	-0.6	13.5	13.0	-0.5	109	110	+ 1	36			353a	402	+49	397a	451	+54
154926	L-198		7/25/53	1	44.4	43.8	-0.6	13.8	13.6	-0.2	103	106	+ 3	37			351a	389	+38	379a	428	+49
155003	L-199		7/30/53	1	44.3	44.2	-0.1	12.8	12.6	-0.2	112	110	- 2	36			361a	403	+42	384a	438	+54
155004	L-200		7/31/53	1	44.3	44.2	-0.1	12.5	12.6	+0.1	110	109	- 1	36			361a	400	+39	382a	440	+58
155103	L-201		8/ 3/53	1	43.3	42.5	-0.8	13.2	12.4	-0.8	106	108	+ 2	34			349a	384	+35	367a	432	+65
155104	L-202		8/ 5/53	1	42.8	42.7	-0.1	12.5	12.4	-0.1	107	108	+ 1	32			326a	388	+62	361a	430	+69
155181	L-202		8/10/53	1	44.0	42.9	-1.1	13.1	13.0	-0.1	105	107	+ 2	37			349a	402	+53	367a	444	+77
155182	L-204		8/13/53	1	44.5	44.0	-0.5	14.0	12.9	-1.1	105	104	- 1	37			355a	402	+47	401a	444	+43
Current Mill Average:					43.7	43.2	-0.5	13.3	13.0	-0.3	107	108	+ 1	36			358	397	+39	384	436	+52

[a]This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note: All "current mill average" data are calculated from the totals of the individual readings.

TABLE XXXIV

SUMMARY OF INDIVIDUAL TEST LOTS--AUGUST 1 THROUGH AUGUST 31, 1953 (continued)

Institute Data versus Mill Data

File No.	Mill Code	Finish	Date Made	Mch. No.	Basis Weight, lb.			Caliper, points			Bursting Strength, p.s.i. gage			G. E. Puncture, units			Elmendorf Tear, g./sheet In			Elmendorf Tear, g./sheet Across		
					IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.
Mill M--42-lb. Linerboard																						
154924	M-184	W.	7/20/53	4	44.0	43.9	-0.1	15.1	14.1	-1.0	99	98	- 1	39	40	+ 1	469a	566	+97	435a	521	+86
154957	M-185	W.	7/28/53	4	43.6	44.1	+0.5	13.8	13.0	-0.8	108	110	+ 2	35	36	+ 1	424a	486	+62	405a	452	+47
155001	M-186	W.	8/ 3/53	2	42.6	42.6	0.0	13.5	12.9	-0.6	108	105	- 3	32	33	+ 1	369	374	+ 5	398a	387	-11
155002	M-187	W.	8/ 4/53	2	42.2	41.7	-0.5	13.6	12.6	-1.0	108	113	+ 5	36	33	- 3	389	414	+25	423a	483	+60
155159	M-188	W.	8/ 9/53	2	43.7	41.8	-1.9	14.3	12.7	-1.6	95	106	+11	37	30	- 7	375a	376	+ 1	411a	424	+13
155160	M-189	W.	8/13/53	2	44.2	42.7	-1.5	14.0	12.5	-1.5	110	119	+ 9	38	33	- 5	381a	401	+20	423a	450	+27
155190	M-190	W.	8/19/53	4	43.7	44.1	+0.4	13.9	13.1	-0.8	111	108	- 3	37	38	+ 1	461a	448	-13	397a	491	+94
155191	M-191	W.	8/20/53	2	42.5	41.2	-1.3	13.1	12.3	-0.8	111	121	+10	35	28	- 7	344a	384	+40	384a	389	+ 5
Current Mill Average:					43.3	42.8	-0.5	13.9	12.9	-1.0	106	110	+ 4	36	34	- 2	401	431	+30	410	450	+40

TABLE XXXV

Mill N--42-lb. Linerboard

154897	N-10	--	7/15/53	1	41.8	41.7	-0.1	12.1	11.7	-0.4	103	106	+ 3	30			324a	312	-12	364a	389	+25
154941	N-11	WF1S	7/30/53	--	42.6	41.8	-0.8	11.7	11.6	-0.1	106	100	- 6	30			353a	350	- 3	371a	415	+44
154942	N-12	WF1S	7/30/53	--	41.8	41.8	0.0	12.4	12.0	-0.4	105	105	0	33			350a	342	- 8	379a	443	+64
154943	N-13	WF1S	7/31/53	--	41.8	41.8	0.0	11.6	11.3	-0.3	114	109	- 5	32			350a	328	-22	387a	410	+23
154972	N-14	WF1S	8/ 4/53	--	42.0	41.6	-0.4	12.2	11.8	-0.4	108	100	- 8	31			311a	335	+24	378a	406	+28
155032	N-15	----	8/ 9/53	1	43.7	43.1	-0.6	12.1	11.9	-0.2	112	99	-13	33			342a	342	0	379a	427	+48
155058	N-16	-----	8/11/53	1	42.9	42.9	0.0	13.0	12.5	-0.5	112	108	- 4	38			364a	366	+ 2	398a	464	+66
155139	N-17	WF1S	8/13/53	1	43.1	42.6	-0.5	12.6	12.2	-0.4	115	103	-12	35			356a	317	-39	385a	454	+69
Current Mill Average:					42.4	42.2	-0.2	12.2	11.9	-0.3	109	104	- 5	33			344	336	- 8	380	426	+46

[a] This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note: All "current mill average" data are calculated from the totals of the individual readings.

TABLE XXXVI

SUMMARY OF INDIVIDUAL TEST LOTS--AUGUST 1 THROUGH AUGUST 31, 1953 (continued)

Institute Data versus Mill Data

File No.	Mill Code	Finish	Date Made	Mch. No.	Basis Weight, lb.			Caliper, points			Bursting Strength, p.s.i. gage			G. E. Puncture, units			Elmendorf Tear, g./sheet In			Elmendorf Tear, g./sheet Across		
					IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.
Mill O--42-lb. Linerboard																						
154898	O-4	W.F.	7/21/53	3	42.2	42.2	0.0	12.4	12.7	+0.3	112	114	+ 2	35			357a	365	+ 8	379a	409	+30
154976	O-5	W.F.	8/ 3/53	3	42.5	42.6	+0.1	12.4	12.6	+0.2	109	107	- 2	35			343a	336	- 7	373a	392	+19
155173	O-6	W.F.	8/17/53	3	41.7	41.9	+0.2	12.4	12.6	+0.2	113	108	- 5	37			335a	319	-16	380a	400	+20
Current Mill Average:					42.1	42.2	+0.1	12.4	12.6	+0.2	111	110	- 1	36			345	340	- 5	377	400	+23

TABLE XXXVII

Mill E--44/46-lb. Drum Linerboard																						
154960	E-22	W.F.	7/27/53	2	47.4	48.8	+1.4	14.1	13.5	-0.6	103	98	- 5	36	43	+ 7	407a	396	-11	395a	391	- 4
154961	E-23	W.F.	8/ 4/53	2	43.2	44.1	+0.9	13.6	12.7	-0.9	112	104	- 8	32	35	+ 3	338a	358	+20	375a	401	+26
155202	E-27	W.F.	8/24/53	2	47.9	47.7	-0.2	14.5	14.4	-0.1	106	102	- 4	41	46	+ 5	413a	421	+ 8	443a	426	-17
Current Mill average					46.1	46.9	+0.8	14.1	13.5	-0.6	107	102	- 5	37	42	+ 5	386	392	+ 6	404	406	+ 2

[a]This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note: All "current mill average" data are calculated from the totals of the individual readings.